



bulletin

The Canadian Association of University Teachers has recommended that the federal government assist Canadians in paying to further their education through the creation of an educational savings plan.

The proposed educational savings plan would be similar in operation to the present Registered Home Owners Savings Plan and would allow a parent or child to contribute up to \$2,000 a year to a maximum of \$20,000. The return from the income would be tax free as in an RHOSP.

The CAUT made its recommendation to the Commission on Educational Leave and Productivity in Montreal in March. The Commission, which was appointed by the Federal Ministry of Labour in early 1978, has been conducting a series of meetings and hearings throughout Canada to discuss issues relating to educational leave.

The educational savings plan, which was first proposed by the CAUT's provincial affiliate in Alberta, the Confederation of Alberta Faculty Associations, would provide for a tax free draw-down during full-time attendance at any educational institution of up to one-third of the funds in the savings plan per year of the programme involved. There would be a required payout of the funds by age 60, if they were still unused, and an opportunity upon prior death or incapacity of the student to transfer the funds to his/her spouse or children for educational purposes.

"The advantages of this plan would be to encourage parents to save for

CAUT proposes "RHOSP — style" educational savings plan

by Helen Baxter

their children's education from an early age, and enable the student to set aside earnings for a later return to higher education," the CAUT said in a brief presented to the Commission.

The CAUT also recommended the development of job training programmes, paid for by government and industry, to be run through existing schools, community colleges and universities. The Association stressed, however, the need for a positive industrial strategy in such a scheme. Canada has traditionally relied on skilled help from outside the country because its governments have never been able to anticipate the needs of the economy in time to train a local

work force, the Association said.

In addition, the CAUT promoted the right of all employees to a minimum level of trade union education. To this end, it recommended to the Commission that the labour relations acts of the provinces and the federal government be amended to secure a general right to such an education at employer expense.

The Association also recommended that governments in Canada create a general right to a period of paid educational leave after an employee has served a period of ten years. This leave could be taken in any bona fide educational institution.

The Association remarked on the

need for continued research on the variety and effectiveness of paid educational leave in Canada and abroad. It suggested that the federal government fund two depository centres in universities, one in each official language, to hold the archives of the Commission and to handle ongoing research.

The CAUT made three additional recommendations on behalf of CAUT members in Canadian universities. In the university context, the Association supported the following:

- Regularized study leave provisions for faculty and professional librarians so that academic qualifications can be secured.
- The continuation of sabbatical leave arrangements as an integral part of the university teacher's or professional librarian's contract as part of his / her obligation to undertake research and / or scholarly work.
- The development and funding of proper retraining programmes in universities so that teaching staff and professional librarians can meet the technological and financial problems facing the universities in the next decade.

Commenting on its general proposals, the CAUT said that, if funded properly, the programs would increase access to education, notably for the disadvantaged. However, the Association stressed the importance of direct action by governments without which educational leave is likely to be restricted to the professional middle class and most skilled workers.

Gov't responds to university pressure

In response to strong pressure from the Canadian Association of University Teachers and the Canadian Library Association, the Minister of Supply and Services, Pierre De Bané, has reversed his proposal to restrict free distribution of government publications to Canadian libraries.

In an announcement February 8, the Minister said that none of the 586 public and educational institution libraries in Canada will be adversely affected by cutbacks.

Originally, De Bané had planned to reduce by over half the number of Canadian libraries now receiving government publications free of charge with a particularly heavy cut in the university sector. However, a strong reaction from the CAUT and the Canadian library community led the Minister to reassess his position on depository libraries.

In response to the Minister's original proposal, the CAUT contacted De Bané and the Members of Parliament

who represent university constituencies, urged its local associations to do the same, wrote individually to all its librarian members asking them to assist in the campaign, and informed the university media of the dimensions

of the problem.

In its letter to the Minister, the CAUT pointed out that the proposed cuts would result in a critical reduction in access to information about federal government activities, programmes



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and research. The CAUT said that in many instances government publications are unique sources of information.

In his February 8 announcement, however, De Bané said that free ordering privileges would be withdrawn from those organizations able to purchase publications from their own resources, including federal government departments, special interest groups and senior public servants.

He also announced the termination of subsidization of subscription prices for parliamentary documents.

The CAUT has applauded the Minister's decision to exempt depository libraries from the cutbacks.

"Mr. De Bané is to be congratulated on recognizing that the public interest is well served by the government documents collections in university libraries and by the free circulation to them of government publications", said Donald C. Savage, CAUT Executive Secretary.

"This episode also demonstrates the need for vigorous lobbying of governments to defend the interests of the universities", Dr. Savage said.

The CAUT welcomed also a second



CAUT Bulletin

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Executive Secretary: Donald C. Savage

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LETTERS LETTRES

English as much to blame

I am in agreement with much of what Malcolm Scully had to say in his articles on South Africa's isolated universities.

However, I would like to comment that the articles seem to give the impression that the English speaking universities as opposed to the Afrikaans universities were "open" to Black students until the Extension of University Education Act of 1959 was passed.

This happens to be only partially true. The English speaking universities have, even before the advent to power of the Nationalist Party in 1948, practised their own version of segregation. An unofficial quota system restricted admission to Black students (East Indians and Coloureds included) to these universities and all the facilities enjoyed by White students were not extended to them.

In the past, Black students were permitted to complete only the first two years of their medical courses in the English speaking universities and thereafter go abroad to finish their studies. The University of Natal (Durban campus) adopted a system of segregating White and Black students by providing separate classes and has established an exclusively Black Medical School in the Republic. Its Pietermaritzburg campus has been a White preserve. Rhodes University in Grahamstown had not even a quota for Blacks.

As regards recruitment of teaching staff, there was no attempt made by the English speaking universities to employ Blacks except perhaps the occasional appointment to the departments of African languages. Mostly lecturers were hired from Britain. The fact is that the English speaking universities are as much to blame as their Afrikaans counterparts for their segregatory policies in the nation's higher institutions of learning.

One other point. Scully misses out on the role of East Indian and Coloured students in the Black consciousness movement. Some of the movement's highly placed officials

were from these ethnic groups.

It is unfortunate that English speaking Whites tend to over-emphasize, if not exaggerate, their anti-apartheid stance while, at the same time, present the Afrikaners in a wholly negative role. The anti-East Indian policy of Gandhi's time, for instance, was the creation of the English speaking Whites.

The majority of English speaking South Africans, today, not only approve but also support the Nationalist Party's apartheid policies. This in no way absolves those responsible for perpetuating the wicked system, be they English Afrikaner or Black South Africans.

L.V. Naidoo
Dept. of Sociology,
University of Regina,
Regina, Saskatchewan

Bill's real threat restriction of freedom

I read with interest the reviews of the proposed anti-obscenity legislation (Bill C-51) which appeared in the October 1978 issue of the CAUT Bulletin. Although I found the comments made by several of the writers to be well taken, I was disturbed by the general orientation of their remarks. Virtually without exception, criticisms of this repressive piece of legislation concentrated on the vague wording, the possibility of it being enforced with varying degrees of strictness in different parts of the country, the lack of qualifications of the enforcing officers, and its effects on 'reputable' writers, artists and film makers. For some reason, no one saw fit to criticize the bill simply on the grounds that it constitutes a restriction of freedom.

The fact that a majority of people may object to the depiction of activities found in certain books, pictures and films does not make a legislative restriction on freedom any less arbitrary or distasteful. While it is reasonable to protect children who are not mature enough to freely consent to certain sorts of activities from exploitation by, say, film makers, adults

who wish to make or view any type of film should be free to do so. The fact that a given number of people consider a certain form of behaviour to be distasteful or degrading to human dignity means only that they should not be forced to participate in those activities. It does not give them license to prevent others from freely and voluntarily participating in or viewing the depiction of such acts.

Furthermore, the fact that majority opinion or the consensus of a special interest group has bestowed the title 'reputable' or 'legitimate' on some writer or artist should not, in principle, grant him the right to depict activities which some other persons are forbidden to portray.

It is time to look beyond problems involving the interpretation and implementation of Bill C-51 and to address the larger and more important issue of government repression of individual freedom of which this legislation is an obvious manifestation.

Sincerely,
William D. O'Grady
The University of Calgary
Calgary, Alberta

Inconspicuous item

In ten years as a member of CAUT I have yet to see proof that the organization serves any useful purpose. However, I have hitherto assumed, with perhaps unwarranted complacency, that the organization did not actually do any harm.

I am now in the process of revising this assumption, having happened to read in the December Bulletin an item so inconspicuously presented that it probably escaped the attention of most of your readers. Buried under a misleading headline on the "National Notes" page of the Bulletin was a statement to the effect that the CAUT, in submissions to the federal and Ontario governments, has proposed that the definition of Canadian citizenship be broadened to include landed immigrants and, secondly, that "affirmative action programmes" be used to "correct the historical disadvantages faced by various groups".

Without wishing in this context to debate either of these questions at length, I must point out that the first of these demands is without precedent in any other country and, if implemented, would make it possible for persons owing allegiance to foreign

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Flexible retirement policy — no single solution

by Helen Baxter

Adequate pensions should be available to all Canadians who wish to retire at age 65, says the Canadian Association of University Teachers.

In a brief presented in February to the Special Senate Committee on Retirement Age Policies, the CAUT stressed the need to provide adequate pension arrangements for all Canadians at 65, regardless of any decision on the mandatory age of retirement.

At the same time, the Association advocated a flexible approach to retirement age.

The CAUT stated in its brief that a pension plan is adequate if it enables the retired person to receive a net income which compares favourably with his income during his last years of work. With regard to retired academics, the Association said that individuals "receiving a pension which is less than 60 per cent of their salary have inadequate pension plans."

The CAUT called on the committee to press the federal and provincial governments to provide model pension plans ensuring an adequate pension income plus protection against inflation.

In addition, the CAUT called for full vesting by law of employer pension contributions, as well as maximum pension portability.

"Given that many university teachers do not teach in the same institution throughout their career," the CAUT said, "the contributions both of the individual and of the university should be immediately and fully vested in the staff member."

"It is scandalous," the Association added, "that it is legally possible for employers to repossess pension contributions made by them, and both federal and provincial governments should legislate to ensure that on termination of employment, the employee should benefit both from his

own contributions and those of his employer to the plan.

The CAUT also urged the Committee to insist on maximum portability for pensions.

"In order that pension plans may be more transferable from one university to another, we believe that as much uniformity as possible should be achieved in the pension plans of the universities," the Association said. It called on the committee to recommend to the provinces and to the universities that they create university pension arrangements which maximize the possibility of mobility.

In addition, the CAUT reiterated its position, presented to the Federal Human Rights Commission in November, that there should be equal annual payouts of pensions for men and women based on unisex actuarial tables.

"We think that men and women should share in one group the risk of not knowing how long one will 'enjoy' his pension," the Association said.

On the question of the mandatory age of retirement, the Association favoured a flexible system which would allow early retirement without actuarial penalty, an equitable voluntary half-time status, an adequate pension for those who wish to retire at 65, and the right for those capable of doing so to continue in employment after age 65.

Finally, the CAUT pointed out that if the Committee recommended the extension of rights in regard to retirement that "university professors should not be excluded from the exercise of these rights."

For results of the CAUT's questionnaire on retirement age policies (CAUT Bulletin, December 1978 - page 4), see page 6.

Security forces must stop surveillance of campuses

The Federal government must publicly reaffirm that it is government policy that there should be no general surveillance by the security forces of university campuses.

In an appearance before the McDonald Commission into RCMP activities in January, the CAUT said the security forces should not maintain general surveillance and electronic eavesdropping of universities nor interfere in any way with freedom of discussion on campuses. Rather, the forces should act only to investigate and apprehend those suspected of committing actual crimes such as terrorist acts, espionage and sabotage, the Association said.

There must also be a clear distinction, clearly understood by the security service, between dissent and criminal espionage, CAUT Executive Secretary

Donald Savage told the Commission.

The CAUT also suggested that the government reduce the amount of material it classifies as secret, restricting such material to such areas as national defence, foreign affairs and the current investigation of particular crimes. This would lead to fewer government employees needing a security clearance and fewer visits to campuses to check a job candidate's background, Dr. Savage said.

The Association recommended that there be an independent tribunal, able to see all the evidence, to review cases where people have been denied entry to Canada on national security grounds. There have been a number of cases in the 1960s and 1970s in which prominent foreign scholars couldn't visit Canada because of their Marxist

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states to participate fully in the political process. As for "affirmative action", a rather unpleasant Orwellian euphemism for reverse discrimination, it has been tried in the United States and has reduced that country's post-secondary educational system to a state of chaos. Moreover at least one application of this principle has recently, and correctly, been declared by the U.S. Supreme Court to violate the fourteenth amendment to the U.S. Constitution.

As a member of CAUT I find it frightening that an irresponsible and unrepresentative executive can adopt controversial positions on the most sensitive of political issues without even a pretence of consulting the membership in whose name they presume to act. If there are any further incidents of the same kind I will take immediate steps to terminate my membership, and I hope that many others are prepared to do likewise.

Sincerely yours,
Garth Stevenson
Associate Professor
Dept of Political Science
University of Alberta
Edmonton, Alberta

Editor's note:

Telescoping to meet space requirements perhaps gave a misleading impression. The CAUT recommends that Canadian citizens and landed immigrants already in Canada be treated equally for appointment, promotion etc., but that where there are candidates from outside the country for a post, they should have demonstrably higher qualifications than the best Canadian candidate before an appointment is made and such appointments must be reviewed by a university-wide appointments committee with the power to refuse appointment if proper advertising and an effective search are not conducted and if the condition mentioned above is not

followed. In the case of affirmative action, the CAUT supported the recommendation and definition of the Ontario Human Rights Commission which saw affirmative action in terms of positive programmes to increase the number of minority peoples in particular programmes. An example would be the native law programme of the University of Saskatchewan.

Easy mistake

The author of the article on "Personal Files" in the December Bulletin is wrong when he says that the Bishop's Agreement "limits their (i.e. letters of reference and assessment) availability to dismissal for cause situations". It is an easy mistake to make if you do not read the whole agreement.

In fact our philosophy is that no one can lose his job without knowing precisely what he is accused of, and by whom. The committee concerned with renewal of probationary appointments and awarding tenure "shall consider only written evidence". If it, in a preliminary examination, reaches an adverse decision the individual involved "has the right to examine his/her file" which naturally must contain all of the written evidence, and meet the Committee.

This makes it more difficult to get rid of people than it was in the past, and no doubt there will be some professors who will get tenure who might not have done when the Principal and the Dean could receive confidential advice and make their own decision. It has the merit in our eyes of ensuring that no one is fired who does not deserve it.

Yours sincerely,
J.L. Redding,
President,
Association of Professors
of Bishop's University
Lennoxville, Quebec

Al Fresco a phoney

For many years I have respected the editorial standards and high quality of *Caut Bulletin*, I was, therefore, surprised to see that you would publish: (Vol 25, No. 11, December, 1978): "Only for your eyes," by "Al Fresco". As you must know, "Al Fresco" is a phoney name and you should have indicated at the very least that the name was withheld by request.

Simple content analysis might have suggested that this kind of sophomoric name-calling and Jeremiad hurling was not up to the high standards of your publication. In these hard-pressed days when universities—faculty, students and administration—are attempting to deal with difficult, complex problems with as much insight and imagination as they can muster, it seems singularly inappropriate for nameless individuals to offer cheap shots as substitutes for rigorous analysis.

Few Canadian Universities are better structured to facilitate meaningful faculty participation in the decision-making process than the University of New Brunswick. I find it difficult to understand why "Al Fresco" doesn't take an open stand on issues or otherwise participate. Of course, a few things would be lost by being a player rather than a spectator: (1) secrecy, (2) the luxury of formulating idiosyncratic solutions that need not be submitted to collegial scrutiny, and (3) an authoritarian cast of mind that always knows what is best for everyone and therefore finds it unnecessary to engage in collective problem-solving. It's also comfortable and safe to be a spectator.

Faculty and administrators at UNB endure with bemused patience the tortured prose and laboured humour of "Al Fresco" in local publications but do you really want this kind of stuff in a national publication?

Sincerely,
Thomas J. Condon
Professor of History
and Vice-President (Saint John)
University of New Brunswick



world university
service of canada
entraide universitaire
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Pilot project to provide instructors to developing countries

A pilot project to provide Canadian university instructors to developing countries has been launched with a \$259,000 grant from the Canadian International Development Agency (CIDA).

The two-year project, known as the World University Service of Canada Associates Program, will make up differences in salaries and benefits for Canadian professors who accept temporary postings overseas. The academics will be paid at local rates in their host country.

The programme will be run by World University Service of Canada (WUSC), an organization founded in 1957 to encourage the students and faculty of Canadian universities and colleges to participate in international affairs. In the past 10 years the focus has been on Third World issues. WUSC currently has sixty-five Canadians working abroad under its auspices.

The universities in Ghana, Malawi, Kenya, Zambia, Tanzania, Zaire and the West Indies have sent tentative requests for staffing assistance in medicine, agriculture, engineering, management and the social sciences and linguistics.

With funding for only five academics under this pilot project, WUSC is now refining details of the requests from these countries in order to match their needs with Canadian academics wishing to participate in the programme.

The need for this kind of initiative in a technical assistance programme is seen when costs are compared. Under normal CIDA co-operant conditions each technical assistant now costs between \$50,000. and \$55,000. per year. The WUSC Associates Programme will make five academics available to developing countries at a cost to CIDA of approximately \$26,000. each per year.

WUSC currently has 65 Canadians working abroad under its auspices. Both volunteers and expert technical assistants are recruited under a range of development programmes. For all of its technical assistant work WUSC seeks Canadians who can make the most appropriate professional contribution and emphasizes the need for candidates to be able to live and work in a different cultural setting.

WUSC will begin recruitment immediately in order to accommodate differences in the timing of academic semesters at home and overseas.

Canadian academics who are interested in serving abroad for two years and who wish to learn more about the WUSC Associates Programmes are encouraged to contact World University Service of Canada in Ottawa.

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Morris I. Berkowitz Memorial Fund

OCUFA friends and colleagues of the late Morris Berkowitz are invited to contribute to a memorial fund organized by the Faculty Association and the Faculty Board of Brock University. It is intended that the interest from the fund be used to maintain an undergraduate scholarship to be designated The Morris I. Berkowitz Memorial Scholarship.

A former President of BUFA, a CAUT board member and an active member of the OCUFA Executive, who was serving as Acting Past President at the time of his death, Morris

was also dedicated to the principle of a strong undergraduate program. Accordingly, the proposed scholarship seems to his Brock colleagues the most appropriate way to remember his contributions to the university community.

Cheques or money-orders made payable to Brock University should be sent to the Finance Department, Brock University, St. Catharines, Ontario, L2S 3A1, together with a note indicating the purpose of your donation and, to ensure the sending of a receipt for tax purposes, your address.

NATIONAL NOTES

by Jill Greenwell (Relations with Government Officer)

Quebec proposal may affect Canadian book industry

Leaked information suggests that the Quebec government is currently working on a draft bill or white paper which would give the cultural affairs minister (Camille Laurin) wide powers to regulate the entire Quebec book industry. According to reports, the draft proposal will require special licences for bookstores, distributors and publishers over and above the current business licences required by commercial establishments. It will also require special accreditation for enterprises hoping for provincial subsidies or to do business with the government and government-supported bodies such as libraries. The requirements for accreditation will include a head office and complete ownership in Quebec, administration by Quebecers, and a publication list at least 40 per cent made up of Quebec authors. A proposed schedule of books which an accredited store must carry will stipulate not only the absolute number of titles on the shelves but also the proportion of Quebec authors to be included among them. Appeal against a refused accreditation application will be to a three member committee named by the minister. It is believed that the draft proposal will have serious implications not only for the book industry in Quebec but for the rest of Canada as well. The CAUT and FAPUQ will be considering the possibility of responding to the government's proposal once it has been announced officially.

Affirmative action in universities

University College of Cape Breton recently became the first post-secondary institution in Canada to establish a human rights affirmative action programme. Under an agreement signed by Ron Giffin, minister in charge of administration of the Human Rights Act, George McCurdy, director of the Nova Scotia Human Rights Commission, and college president, Dr. Donald F. Campbell, equal employment opportunities will be provided to women, the physically handicapped and minority groups such as blacks and Indians. Discrimination on the grounds of race, religion, creed, colour, sex, marital status, age, physical handicap, ethnic or national origin will be prohibited. Mr. McCurdy has told the CAUT that this agreement is part of a province-wide campaign to persuade major employers, including industry and governments, to implement affirmative action programmes based on goals and timetables. Using the labour projection approach, the employer, working closely with the Commission, established realistic levels of employment from target groups — based on the availability of locally qualified manpower and on people interested in filling vacancies. The Commission has established no "quotas" for any of its affirmative action programmes. Those requiring more details should contact Mr. McCurdy, Human Rights Commission, Lord Nelson Arcade, 5675 Spring Garden Road, Halifax, B3J 3C4.

Greater liaison between CBC and academic community

The establishment of three new advisory committees to provide the CBC with a broader base of expertise and public representation in the planning of programmes in the areas of science and technology and food and agriculture was announced recently by the corporation president, Al Johnson.

The Science and Technology Committee, English networks, is chaired by Louis Siminovitch (Medical Genetics, University of Toronto); and in the French networks, by Michel Bergeron (Physiology, Université de Montréal). The Food and Agriculture Committee, English networks, is headed by R.E. Forbes (Provincial Exhibition of Manitoba, Brandon).

Committee members are meeting with CBC personnel initially to learn how programmes are developed, their objectives, what difficulties are encountered, and the kind of assistance specialists can give. In response to a complaint that more American experts were being interviewed than Canadian ones, for example, the English Science and Technology Committee has agreed to develop, through the universities, a list of Canadians and their areas of expertise.

While it is doubtful in the short run whether any new television or radio programmes will be introduced given the CBC's severe budget cutbacks, announced by the government in September 1978, the work of the Committees should at least ensure the quality and accuracy of the programmes.

CAUT members are invited to contact the Chairmen of the Committees to suggest issues which should be studied.

Immigration and foreign students

The Canadian Bureau for International Education, an information and activity centre for those involved in international education and educational exchange, has produced a new publication entitled Guide to Foreign Student Authorizations for Canada. Designed primarily to assist admissions officers at Canadian educational institutions and students from abroad who intend to study in Canada, the document also contains a great deal of valuable information for those who work with foreign students and the immigration authorities. Copies are available from CBIE, 141 Laurier Avenue West, Ottawa, Ontario K1P 5J3 at \$2.00 each.



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This programme will place 5 Canadian Academics in Third World Universities. The host university will provide local conditions of service. WUSC will cover the costs of travel, relocation, insurance and will provide a salary topping up to match or approximate the academics Canadian salary. Assignments are for two years. A number of universities have agreed to guarantee the positions and pay the employers share of fringe benefits for a member of their staff accepted under the WUSC Associates Programme.

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Christopher C. Smart
Associate Director
Overseas Programmes
99 City Centre
880 Wellington Street
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K1R 6K7

Security forces ... from p. 3

beliefs. The government has usually reversed its decision when the CAUT intervened, the CAUT said in its brief to the Commission.

In addition, the CAUT recommended that the power to issue national security wiretap and bugging warrants should be taken from the Solicitor-General. Only independent federal judges should be able to grant such warrants.

The Association also expressed the view that homosexuals should not be viewed as security risks who would be subject to black-mail. This would be true only if exposure involved the risk

of losing a job, Dr. Savage said; and blackmailers would not have any leverage if the government made it clear that homosexuality would not result in firing.

Finally, the CAUT asked the Commission to investigate charges raised in *The Globe and Mail* in 1977 concerning general surveillance on university campuses such as Ottawa, and the case of the national defence personnel who acted as informers while taking university courses in 1970. It also asked the Commission to look into allegations made at the same time concerning the RCMP's activities involving legal trade unions, such as CUPE and legal political parties such as the NDP.

H.B.



Results of CAUT questionnaire

Mandatory age of retirement

by Robert Léger

In the December 1978 edition of the *CAUT Bulletin*, we ran a questionnaire asking our members for their opinions on matters relating to retirement age. To date (February 15), 307 members have answered the questionnaire. Although the number is small compared to our total membership of 24,000, we believe the results are significant since they represent the opinion of professors very much interested in the issue.

The questionnaire included the following questions:

1. Your age?
2. Under the present system ("normal" retirement age being 65), at what age do you plan to retire?
3. Would you consider early retirement (from 55 to 64) if you were assured of a pension without "actuarial penalty"?
4. Would you be in favour (i) of having a mandatory retirement age at 70? (ii) of abolishing mandatory retirement altogether?
5. If the mandatory age of retirement was moved to 70, would you favour an exception being made for university teachers?

Perhaps the most significant finding of the questionnaire concerns the planned or preferred age of retirement (Question 2). Most of the responding members stated that, under the existing system, they would prefer to retire at about the age of 65, as may be seen in Table A. However, a considerable number (73, or 25.7%) would prefer to retire after the age of 65, and about the same number (75) would be in favour of early retirement (with 45 of the persons in the latter group favouring 60 or earlier for retirement age). Moreover, in answer to question 3, 149, or 55.0% of the respondents would consider early retirement if they were assured of receiving a pension with no financial penalty.

Later retirement preferred

Let's now look at the relevance of age as far as these two questions are concerned. Tables B and C provide us with a breakdown of the respondents' answers by age group. In Table B, the response from members in the first two categories is similar. However, older respondents — those 51 and over — would prefer to retire at age 65 or later. Only 20, or 18.5%, would like to retire before this age, whereas 55, or 31.3% of the responding academics 50 years of age and under would be in favour of early retirement.

The same phenomenon is demonstrated in Table C, where 54.2% of the academics who have answered the questionnaire aged 51 and over, are not interested in early retirement, even if no financial penalty is involved, whereas the figure for the other two categories (combined) is 39.3%.

In conclusion, the academics

Robert Léger is CAUT professional officer in charge of economic benefits and salaries.

responding to the questionnaire vary widely as to the age at which they would prefer to retire. About half would like to retire at the "normal" age of 65. A quarter would like to retire after this age and the other quarter before. It is also noteworthy that early retirement appears less attractive as the academic advances in years. It is difficult to say why this is so; perhaps work becomes more pleasant as he grows older, or perhaps he becomes aware at some point that his pension plan is inadequate. The results of our survey of academics who have already retired lead us to favour the latter hypothesis.

On the question as to whether they were in favour of raising the mandatory retirement age to 70, 165 academics out of 307, or 53.7%, answered "no". Sixty-five (21.2%) did not answer this question.

On the other hand, 180 respondents, or 58.6%, when asked whether they were in favour of abolishing the mandatory retirement age altogether, answered "yes". Twenty-seven did not answer this question.

The explanation for this apparent contradiction is to be found in Table D, where it can be seen that 92 academics answered "yes" to the second question and "no" to the first. In addition, 61 expressed no opinion on setting the mandatory retirement age at 70 but were in favour of abolishing mandatory retirement.

Those persons who were opposed to the principle of a mandatory age of retirement offered a number of reasons for their opposition.

One person stated:

"I suggest that there should be no set age for mandatory retirement, but that the professor who reaches the age of 65 be evaluated at that point by his colleagues in his department or faculty. They would evaluate his ability to continue to be of service to the department, in terms of the needs of the department..."

He continued:

"I justify my suggestions in the following manner: we must avoid imposing mandatory retirement on a person whose services may still be valuable or necessary, and who wishes to continue. At the same time, we must not force an institution to keep in its service a professor whose performance is diminished by factors inherent in aging, even if he is determined to remain in his position."

Another took a similar position, saying,

"Earlier or later retirement should be possible, if employer and employee agree."

Several other persons who were of a similar mind raised questions concerning pension plans:

"In recent years, failure to adjust pensions of those in retirement by cost of living (has been) a major disincentive to early retirement."

Another added,

"So much depends on the pension available. One should not have to work until 70 in order to be eligible for a pension big enough to live on. After all, 40 years of service (25-65) is a good contribution. One should not have to incur a financial penalty to retire at 65."

Another respondent took a historical perspective and mentioned the negative aspects of mandatory retirement:

"The age of 65 as a forced retirement age was originally conceived in part, I believe, to set a time at which people who were doing hard physical work could expect to receive some kind of a pension and my friends in history trace it back to Bismark. It was related to the life expectancy of people and it was not expected that a large number of people would live past the age of 65. Conditions today have changed a great deal and I think it is time that the concept of forced retirement at 65 should be re-evaluated, particularly with respect to universities."

There have also been studies to show that when people retire that this can have a bad effect on their health and would seem to be a contributing cause to their early death."

Salary frozen

Another academic who was opposed to any mandatory retirement age offered the following comments:

"After age 60 salary should be frozen", and

"There should be inducement to retire by removing financial incentives to continue."

Finally, a number of academics (50, according to Table D) were in favour of having the mandatory age of retirement raised to 70, but were opposed to

abolishing it altogether (29) or did not express an opinion on this question (21). The reasons they gave were mainly economic in nature:

"The mandatory age of retirement should be moved to 70 because some people may be and may feel quite capable of continuing beyond 65 years of age; others may want to continue out of sheer economic necessity. However, retirement must be mandatory at 70 because most people are no longer useful at that age and some may not have enough sense to retire at 70. No one should be penalized for wanting to retire between 60 and 70."

Furthermore, Table D demonstrates that only 75 out of 305 respondents were in favour of the status quo or a mandatory retirement age lower than 65. Respondents who were of this opinion offered the following comments:

"Given the atmosphere of hostility, worry, tension, fear, anxiety and frustration which is a fall-out effect of diminishing enrolment and impending cutbacks, early retirement should be facilitated."

Several of the respondents favouring a mandatory age of retirement spoke of the drop in productivity that comes with age:

"A mandatory retirement age allows us to bow out gracefully without having to be forced out. We bow out



TABLE A / TABLEAU A
RETIREMENT AGE PLANNED / ÂGE DE LA RETRAITE DÉSIRÉ

Âge	Freq	%	Adjusted %/ % ajusté
60 or under/ou moins	45	14.7	15.8
61-64	30	9.8	10.6
65	136	44.3	47.9
66 or over/ou plus	73	23.8	25.7
Not applicable/ Ne s'applique pas	9	2.9	Missing/ Manquants
No response/ Pas de rép.	14	4.6	Missing/ Manquants
TOTAL	307	100.0	100.0

Valid Cases / Cas valides 284

Missing Cases / Cas manquants 23

TABLE B / TABLEAU B
RETIREMENT AGE PLANNED BY AGE /
L'ÂGE DE LA RETRAITE DÉSIRÉ PAR L'ÂGE

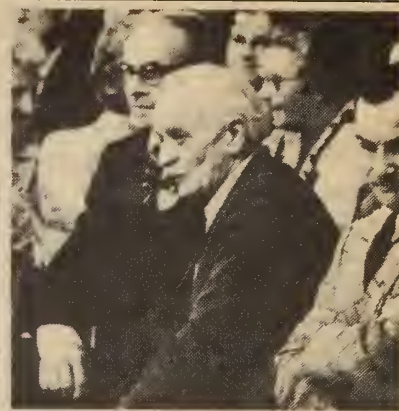
Ret. Age Planned/ Âge ret. désiré	40 or under/ ou moins	Âge 41-50	51 or over/ ou plus	TOTAL
60 or under/ ou moins	14 18.2	20 20.2	11 10.2	45 15.8
61-64	7 9.1	14 14.7	9 8.3	30 10.6
65	38 49.4	44 44.4	54 50.0	136 47.9
66 Or Over/ ou plus	18 23.4	21 21.2	32 31.5	73 25.7
TOTAL	77 100.0	99 100.0	108 100.0	284 100.0

Missing Observations / Cas manquants 23

Résultats du questionnaire de l'ACPU

Âge obligatoire de la retraite

par Robert Léger



Dans le numéro de décembre 1978 du bulletin de l'ACPU, nous avons inséré un questionnaire qui demandait aux membres leurs vues sur des questions relatives à l'âge de la retraite. Jusqu'ici (15 février), 307 membres ont répondu au questionnaire. Même si ce nombre est petit en comparaison des 24,000 membres de l'ACPU, nous croyons que les résultats sont significatifs puisqu'ils représentent l'avis de professeurs très intéressés par la question.

Le questionnaire comprenait les questions suivantes:

1. Votre âge ?
2. Sous le régime actuel (l'âge "normal" de la retraite étant de 65 ans), à quel âge projetez-vous de vous retirer ?
3. Songeriez-vous à vous retirer tôt (de 55 à 64 ans) si vous aviez l'assurance d'une pension sans "pénalité actuarielle" ?
4. Seriez-vous en faveur (i) d'avoir un âge obligatoire de la retraite à 70 ans ? (ii) d'abolir complètement la retraite obligatoire ?
5. Si l'âge obligatoire de la retraite était porté à 70 ans, seriez-vous en faveur de faire exception pour les professeurs d'université ?

La constatation peut-être la plus importante du questionnaire concerne l'âge projeté ou préféré de la retraite (Question 2). La plupart des répon-

dants ont dit que, sous le régime actuel, ils projettent de se retirer vers 65 ans, comme le montre le tableau A. Cependant, un nombre considérable (73, soit 25.7%), projettent de se retirer après 65 ans et environ le même nombre (75) seraient en faveur d'une retraite hâtive (45 des répondants de ce dernier groupe préféreraient 60 ans ou moins comme âge de la retraite). En outre, en réponse à la question 3, 149 (55.0%) répondants ont dit qu'ils envisageraient de se retirer tôt s'ils étaient assurés de toucher une pension sans pénalité financière.

Changer l'âge de la retraite?

Voyons maintenant ce qu'il en est de la pertinence de l'âge en ce qui concerne ces deux questions. Les tableaux B et C présentent la ventilation des réponses des répondants par groupe d'âge. Au tableau B, la réponse des membres des deux premières catégories est semblable. Cependant, les répondants âgés (ceux de 51 ans et plus) préféreraient se retirer à 65 ans et plus. Seulement 20 (18.5%) aimeraient se retirer avant cet âge tandis que 55 (31.3%) des répondants de 50 ans et moins seraient en faveur de la retraite hâtive.

Le même phénomène se produit dans le tableau C où 54.2% des professeurs de 51 ans et plus ayant répondu au questionnaire, ne sont pas in-

teressés à une retraite anticipée même sans pénalité actuarielle, alors que le pourcentage est de 39.3 pour les deux autres catégories (groupées).

En conclusion, nos répondants aimeraient se retirer à des âges très variables. Environ la moitié désirent se retirer à l'âge "normal", soit 65 ans. Un quart environ voudrait se retirer après cet âge et l'autre quart, avant. On remarque aussi qu'une retraite hâtive semble moins attrayante à mesure que le professeur avance en âge. Il est difficile de dire le pourquoi de ce fait: peut-être que le travail devient plus agréable en vieillissant ou qu'on s'aperçoit alors que son régime de retraite est insuffisant. Les résultats d'un autre sondage sur les professeurs déjà retraités nous font pencher vers cette dernière hypothèse.

À la question de savoir s'ils sont en faveur de porter l'âge de retraite obligatoire à 70 ans, 165 des professeurs sur 307 ont répondu "non", soit 53.7%. Soixante-cinq professeurs (21.2%) n'ont pas répondu à la question.

Cependant, 180 sont en faveur d'abolir l'âge obligatoire de la retraite complètement et ont répondu "oui" à la question suivante, soit 58.6%. Vingt-sept n'ont pas répondu à la question.

L'explication de ce paradoxe apparent se trouve dans le tableau D suivant où on voit que 92 professeurs ont répondu "oui" à la deuxième question et "non" à la première. De plus, 61 professeurs ne se sont pas prononcés sur l'âge de la retraite obligatoire à 70 ans, mais sont en faveur de l'abolition de l'âge de la retraite.

Ces professeurs qui sont contre le principe de l'âge obligatoire de la retraite donnent plusieurs raisons pour leurs oppositions. Ainsi, un professeur affirme:

"Je suggère qu'il n'y ait pas d'âge fixe pour la retraite obligatoire, mais que le professeur qui a atteint l'âge de 65 ans fasse l'objet d'une évaluation par ses collègues de département ou de faculté. On évaluera la capacité de l'individu à rendre encore des services au département, en regard des besoins du département..."

et il continue

"Je justifie mes suggestions de la façon suivante: il faut éviter d'imposer la retraite obligatoire à une personne dont les services peuvent être précieux ou nécessaires, et qui est disposée à continuer. Par contre, il ne faut en rien obliger une institution à garder à son service, un professeur dont le rendement est diminué par des facteurs inhérents au vieillissement, même si la personne s'entête à vouloir continuer."

Un autre abonde dans le même sens en disant:

"Earlier or later, retirement should be possible, if employer and employee agree."

Quelques autres professeurs qui partagent les mêmes opinions, mettent les régimes de retraite en cause:

"In recent years, failure to adjust pensions of those in retirement by cost of living has been a major disincentive to early retirement."

Un autre ajoute:

"So much depends on the pension available. One should not have to work until 70 in order to be eligible for a pension big enough to live on. After all, 40 years of service (25-65) is a good contribution. One should not have to incur a financial penalty to retire at 65."

Un autre professeur adopte une perspective historique et mentionne les aspects négatifs d'une retraite forcée:

"The age of 65 as a forced retirement age was originally conceived in part, I believe, to set a time at which people who were doing hard physical work could expect to receive some kind of a pension and my friends in history trace it back to Bismark. It was related to the life expectancy of people and it was not expected that a large number of people would live past the age of 65. Conditions today, have changed a great deal and I think it is time that the concept of forced retirement at 65 should be re-evaluated, particularly with respect to universities."

There have also been studies to show that, when people retire, this can have a bad effect on their health and would seem to be a contributing cause to their early death."

Par nécessité économique

Un autre professeur qui est contre tout âge obligatoire de la retraite, offre les commentaires suivants:

—After age 60, salary should be "frozen" et
—there should be inducement to retire by removing financial incentives to continue.

Finalement, quelques professeurs (50, d'après le tableau D) sont en faveur que l'âge obligatoire de la retraite soit porté à 70 ans, mais sont contre son abolition complète (29) ou ne se sont pas prononcés sur cette dernière question (21). Ce serait surtout pour des motifs économiques:

"The Mandatory age of retirement should be moved to 70 because some people may be and may feel quite capable of continuing beyond 65 years of age; others may want to continue out of sheer economic necessity. However, retirement must be mandatory at 70 because most people are no longer useful at that age and some may not have enough sense to retire at 70. No one should be penalized for wanting to retire between 60 and 70."

Nous croyons qu'on peut interpréter les résultats du tableau D en disant que seulement 75 sur 305 professeurs répondants sont en faveur du statut quo ou d'un âge de la retraite obligatoire antérieur à 65 ans. Parmi ces derniers, nous avons les commentaires suivants:

"Given the atmosphere of hostility, worry, tension, fear, anxiety and frustration which is a fall-out effect of diminishing enrolment and impending cutbacks, early retirement should be facilitated."

Robert Léger est agent de recherche pour les avantages économiques et salaires.

TABLE C / TABLEAU C
EARLY RETIREMENT* BY AGE/
RETRAITE ANTICIPÉE* PAR L'ÂGE

Early Ret. Ret. Anticipée	40 or under/ ou moins	Âge 41-50	51 or over/ ou plus	TOTAL
Yes/Oui	42 58.3	57 62.6	49 45.8	148 54.8
No/Non	30 41.7	34 37.4	58 54.2	122 45.2
TOTAL	72	91	107	270
%	100.0	100.0	100.0	100.0

Mission Observations/Cas manquants 37

*Without actuarial penalty / Sans pénalité actuarielle

TABLE D / TABLEAU D
"RETIREMENT AGE AT 70" BY "ABOLISHMENT
OF MANDATORY RETIREMENT AGE"/
"ÂGE DE LA RETRAITE À 70 ANS" ET
"ABOLITION DE L'ÂGE DE LA RETRAITE"

ABOLISHING/ABOLITION

Ret. Age At 70/ Âge de ret. à 70 ans	Yes/Oui	No/Non	No Response/ Pas de réponse	TOTAL
Yes/Oui	27	29	21	77
No/Non	92	69	4	165
No Response/ Pas de réponse	61	2	2	65
TOTAL	180	100	27	307

Mandatory... from p. 6

with plenty of ability and interest remaining that may be channelled in new ways or directions. We step aside to make way for an orderly transition to a new order. It seems to me that there would be nothing more painful (both for the employee and employer) than to see a colleague (or have them see me) try to hang on, maintaining a distorted view of one's own value and productivity."

Others mentioned the need to revitalize the universities by bringing in young academics. One respondent stated:

"The vitality of the university system is dependent on bringing into our ranks bright and energetic young people. Because of a falling enrolment which is anticipated to last for about a decade there will not be an increase in faculty positions during the next 10 years. Also, since the average age of faculty is only 42 the number of faculty retiring is also very low."

Another expressed a similar opinion:

"It would be a disaster for the academic community of this country if the retirement age were raised particularly at this time. First of all, our bright young graduates would be denied an opportunity to enter the profession if openings were not created by retirements. That would be positively immoral. Secondly, the universities themselves would suffer if they were not constantly being revitalized by the addition of new talent."

Whatever their opinion on mandatory retirement age, many responding professors favour part-time work after retirement. For example, a professor opposed to any change in the retirement age policy mentions:

Âge obligatoire... from p. 7

Plusieurs professeurs favorisant un âge de la retraite obligatoire parlent de la baisse de productivité due à la vieillesse:

"A mandatory retirement age allows us to bow out gracefully without having to be forced out. We bow out with plenty of ability and interest remaining that may be channelled in new ways or directions. We step aside to make way for an orderly transition to a new order. It seems to me that there would be nothing more painful (both for the employee and employer), than to see a colleague (or have them see me) try to hang on, maintaining a distorted view of one's own value and productivity."

D'autres mentionnent la nécessité de renouveler nos universités par l'arrivée de jeunes professeurs. Ainsi, un professeur déclare que:

"The vitality of the university system is dependent on bringing into our ranks, bright and energetic young people. Because of a falling enrolment, which is anticipated to last for about a decade, there will not be an increase in faculty positions during the next 10 years. Also, since the average age of faculty is only 42, the number of faculty retiring is also very low."

Un autre écrit dans le même sens: "It would be a disaster for the academic community of this country if the retirement age were raised particularly at this time. First of all, our bright young graduates would be denied an opportunity to enter the profession if openings were not created by retirements. That would be positively immoral. Secondly, the universities themselves would suffer if they were not constantly being revitalized by the addition of new talent."

Quelle que soit leur opinion sur l'âge de la retraite obligatoire, plusieurs pro-

"I need and intend to work. But universities and all employers need a turnover of employees. Fifty-five would be a better mandatory retirement age, but I would want to teach part-time, as I can, thereafter."

Another in favour of a change in the mandatory retirement age notes:

"Option of part-time appointment, e.g. in professional and special area of research involving one or two courses, should be available."

Another in favour of the same change to age 70, but opposed to abolishing mandatory retirement age completely, argues:

"I personally would provide the right to half-time employment with proportionate salary to age 70 or 75."

The age of the respondents does not seem to have had much of a bearing on their answers to the question of a mandatory age of retirement. However, it would appear that as academics advance in years, they tend increasingly to be in favour of raising the mandatory age of retirement to 70. The percentage of those in favour for the three age categories were 20.3%, 28.2% and 43.0% respectively. This corresponds to what we saw earlier with respect to the questions on the preferred age of retirement and early retirement. Furthermore, there is no relationship between the age of the respondents and their attitude toward abolishing mandatory retirement: in all three categories, roughly two-thirds of the respondents were in favour of abolishing mandatory retirement.

As regards the final question on the questionnaire, 68.5% of those answering the question were opposed to the idea that an exception should be made in their case if the mandatory age of retirement were raised to 70. □

fesseurs favorisent le travail à temps partiel après l'âge de la retraite. Ainsi, un professeur opposé à tout changement à l'âge de la retraite obligatoire, mentionne:

"I need and intend to work, but universities and all employers need a turnover of employees. Fifty-five would be a better mandatory retirement age, but I would want to teach part-time, as I can, thereafter."

Un autre, favorisant un changement de l'âge obligatoire à 70 ans, note:

"Option of part-time appointment, e.g. in professional and special area of research involving one or two courses, should be available."

Un autre, favorisant le même changement à 70 ans, mais opposé à l'abolition complète de l'âge de la retraite obligatoire, se prononce ainsi:

"I personally would provide the right to half-time employment with proportionate salary to age 70 or 75."

L'âge des répondants ne semble pas trop lié à leurs réponses sur l'âge obligatoire de la retraite. Cependant, il semble qu'à mesure que les professeurs avancent en âge, plus ils sont en faveur de porter l'âge obligatoire de la retraite à 70 ans. Les pourcentages des répondants favorables sont respectivement 20.3%, 28.2% et 43.0% pour les trois catégories d'âge. Ceci correspond à ce que nous avons vu précédemment pour les questions sur l'âge de la retraite désiré et sur la retraite anticipée. De plus, on démontre qu'il n'y a pas de relation entre l'âge des répondants et l'abolition de l'âge de la retraite: dans les trois groupes, environ les deux tiers des professeurs veulent l'abolition de l'âge de la retraite.

Quant à la dernière question du questionnaire, 68.5% de ceux ayant répondu à la question sont contre l'idée qu'une exception leur soit accordée si l'âge de la retraite obligatoire était porté à 70 ans. □

Indexing and portability

University pension plans

Pension plans available to teaching staff at Canadian universities are of three types: money purchase; defined benefit; and money purchase with minimum guarantee.

In the money purchase plan, employee and employer both contribute a fixed percentage of salary to a fund which is expected to grow through investment. At retirement, this fund is used to purchase an annuity which will provide the annual pension benefits to the employee. There are no specific provisions made for dealing with inflation but these plans are usually fully portable.

With the defined benefit plan, employee contributions are a fixed percentage of salary but employer contributions vary according to actuarial projections of the pension fund. At retirement, the employee receives an annual benefit based on the product of a specified percentage (usually from 1-1/2% to 2%) times years of credited service times a specified average salary (usually the average of the best five years' earnings). Most plans are indexed to a maximum 2-3% and are certainly less than fully portable.

In the third plan - money purchase with minimum guarantee, employee and employer both contribute specified amounts as in the money purchase plan but, in addition, the employer guarantees a minimum pension via a formula such as in the defined benefit plans. At retirement, the employee chooses between the benefits provided by the money purchase and the minimum guarantee. The minimum guarantee component of most plans is indexed to a maximum 2-3% as a means of offsetting inflation. The money purchase component is usually fully portable.

As seen from the above definitions, money purchase plans are usually (theoretically) fully portable, but it is usually not the case for defined benefit plans. On the other hand, defined benefit plans deal with inflation in two ways: one, since the pension depends on a specified average salary and since salaries usually increase to cover at least partly the cost of inflation, we can say that the pension received at the beginning of retirement has been partially indexed; two, most of those

plans are usually indexed to a maximum of between 2% and 3% during retirement. In money purchase plans, there are no specific provisions made for dealing with inflation.

"Money purchase with minimum guarantee" have something of both. The minimum guarantee component of most of these plans is indexed, and the money purchase component is usually fully portable.

Defined benefit plans are the most popular in Canada as a whole, and this is also true for Western Canada and the Quebec universities. "Money purchase with minimum defined guarantee" plans are increasingly popular in Ontario, followed by Western Canada and Quebec. In Atlantic Canada, very different from the other regions, there are seven money purchase plans (out of a total of nine for Canada). The CAUT is worried about the inadequacy of those plans to give our retired teachers a sufficient pension (compared to the final years salary), if the rate of inflation does not go down in the near future. On the other hand, about half of our pension plans are of the defined benefit type, which are usually not too portable. In defined benefit plans, the CAUT thinks that on termination (resignation, etc) of employment before retirement, at least two options should be offered to the member:

- (i) a deferred pension payable at normal retirement based on service and earning to resignation;
- (ii) transfer of twice member's contribution plus interest to registered fund of new employer or to an approved RRSP.

Even then, a number of years of service, used to calculate the defined benefit, would probably be lost in the transfer. In money purchase plans, employer contributions should be immediately and fully vested in the staff member. In this case, the options offered to the members should be at least:

- (iii) a deferred pension payable on normal retirement;
- (iv) transfer of money purchase account to a registered pension fund of new employer or to an RRSP. □

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BARGAINING TALK NÉGOCIATIONS

by Ted Bartley (CAUT Collective Bargaining Officer)

Planning is now under way for the second annual CAUT NATIONAL BARGAINING CONFERENCE. Although the location has not yet been determined, the dates have been set. Workshop sessions will commence on Thursday evening, September 6th, 1979, and the programme will continue through to mid-afternoon on Sunday, September 9th. Local associations are encouraged to send two members, preferably one who attended last year as well as one new person. We would very much like to preserve the mix of experience which most participants seemed to find beneficial last year.

We plan to repeat the basic format of simulations mixed with workshops on specific issues, although we do intend that the workshop issues will be much more closely tied to the simulations than was the case last year. At the moment, the most commonly suggested topics for workshops include financial exigency, programme redundancy, and the drafting of contract language on academic status questions such as promotions and tenure. It has also been suggested that the programme should contain a two hour workshop session on how to read balance sheets and financial statements. Your suggestions for possible topics and approaches would be greatly appreciated. The Collective Bargaining Committee has set up a sub-committee composed of Mark Thompson (Commerce, UBC), Howard Snow (Law, Manitoba), and Geoff England (Law, Calgary) to assist with the planning of the Conference. Comments should be forwarded either directly to these individuals or through Dr. R.C. Levesque, Professional Officer, at the CAUT Ottawa office.

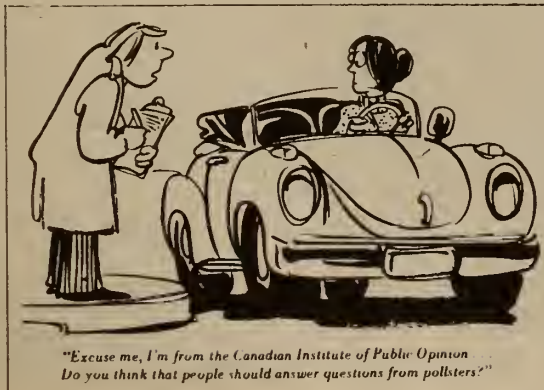
The LAKEHEAD UNIVERSITY FACULTY ASSOCIATION recently conducted a mail ballot on the certification option. The results were 88 votes in favour of certification and 48 for Special Plan, with 15 respondents indicating a preference for the status quo. On the basis of this response, the Executive has appointed Dr. Stan Magwood (Biology) to co-ordinate the sign-up campaign, which was scheduled to begin in early March. At LAURENTIAN, The Ontario Labour Relations Board examination into the duties of Directors of Schools concluded in mid-February. The Board will be ruling shortly on whether this group should be included in the faculty bargaining unit. With respect to the main application, the hearing continued on March 13th and a certification order or representative vote is expected shortly. Apart from the Directors, the balance of the bargaining unit has been determined. It includes department chairmen, professional librarians, instructors and all part-time academic staff who have more than fifty per cent of the responsibilities of full-time members in the same academic unit. Roy Kari (Chemistry) and Ashley Thompson (Library) are expected to lead the faculty association bargaining team.

A sign-up campaign was begun at MEMORIAL on February 5th... The representation vote at UNB was scheduled to take place on March 7, 8, 9 at the Fredericton campus, and on March 12 and 13 in St. John... A panel discussion on the certification question was held at MCGILL on February 28th. Participants included Ted Bartley (CAUT), Dr. Jean Edward Smith (Political Economy, Toronto) and René-Serge Larouche (Director-General of FAPUQ).

THE UNIVERSITY OF CALGARY FACULTY ASSOCIATION recently signed a new "Agreement to Bargain Collectively". This document sets out the basic ground rules for the annual negotiations / arbitration of the compensation package under the Special Plan arrangement... A faculty delegation led by Professor John Fekete (English) has been attempting to negotiate improvements in terms and conditions of employment at TRENT... Mike Cross (History) and Bob Rodger (Psychology), with occasional assistance from Don Savage (CAUT), lead the faculty negotiating team at DALHOUSIE... Negotiations are similarly well under way at UBC for renewal of the Framework Agreement and revisions to Conditions of Appointment, both of which documents constitute the special plan.

CAUT assisted with a Contract Administration seminar at YORK on March 9th. The program represents an attempt to assist local associations in understanding how the grievance and arbitration process works. Proposals are being entertained in this regard for 1979-80, and associations which are interested in holding such a workshop are urged to contact Ted Bartley at the Ottawa office.

We are pleased to announce the addition of a third staff officer to the collective bargaining section of the CAUT. Ms. Susan Feldman comes to us from MCGILL with an honours B.A. in Sociology, and with labour relations experience as supervisor of the Ontario government's "Student Training in Industrial Relations" program.



"Excuse me, I'm from the Canadian Institute of Public Opinion.
Do you think that people should answer questions from pollsters?"

Reprinted from Saturday Night



THE UNIVERSITY OF MANITOBA

invites applications and nominations for the position of

Dean of the Faculty of Law

The Faculty of Law offers the Bachelor of Laws (LL.B.) degree, requiring three years full-time study, with a student enrolment of approximately 365, and also a Master of Laws (LL.M.) degree, which is based on research and the presentation of a thesis.

Candidates should have achieved distinction in a major field of Law and should have appropriate academic and administrative experience.

Canadian citizens, landed immigrants, and others eligible for employment in Canada at the time of application are especially encouraged to apply.

The appointment is expected to commence July 1, 1979 for a renewable five to seven year term.

Applications and/or nominations will be received until April, 1979.

Please address replies to:

Provost K.R. Hughes,
University of Manitoba,
Room 202, Administration Building,
Fort Garry Campus,
Winnipeg, Manitoba, R3T 2N2.



THE UNIVERSITY OF MANITOBA

invites applications and nominations for the position of

Director of the School of Nursing

The School of Nursing offers a four-year Bachelor of Nursing degree program to 250 undergraduate students. A graduate program with specialization in Community Health Nursing is currently under review.

Candidates should have achieved distinction in a major field of Nursing and should have appropriate academic and administrative experience.

Canadian citizens, landed immigrants, and others eligible for employment in Canada at the time of application are especially encouraged to apply.

The appointment is expected to commence July 1, 1979 for a renewable five to seven year term.

Applications and/or nominations will be received until April, 1979.

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Provost K.R. Hughes,
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Ft. Garry Campus,
Winnipeg, Manitoba, R3T 2N2.

NOTES FROM WASHINGTON

by Clive Cookson

The Carter administration's reputation for weakness and inconsistency is not always deserved. One field in which President Carter has taken a consistent line is research and development: from the moment he took office he has emphasized the importance of basic science for the United States' long-term industrial future, and he has always tried to get Congress to appropriate more money for fundamental research.

His first budget — the 1979 budget announced at the beginning of last year — requested a five per cent real increase in federal funding of basic research. But Congress turned it upside down, appropriating far more money for biomedical research than the president wanted, and much less for every other field. Thus the National Institutes of Health (NIH) received just over \$1 billion to spend on basic research in 1979, 25 per cent more than 1978 after allowing for inflation, while the remaining federal agencies got \$2.7 billion between them — in real terms about the same as 1978.

This January Mr Carter came back and requested a nine per cent increase in federal funding of basic research in 1980. On the (optimistic) assumption of seven per cent inflation, that would allow two per cent real growth. Basic research was therefore well sheltered from the general stringencies of the president's lean and austere budget.

However applied research and development — and expensive demonstration projects in particular — are trimmed back considerably. The Carter administration feels that if the government does not support basic, long-term research no one else will, but that it can leave an increasing proportion of development work to private industry. Since basic research is generally cheaper than development, the shift is attractive to the White House economic advisers. They expect the United States to spend \$30.6 billion on R and D as a whole in 1980 — only four per cent up.

Universities do well

As academic scientists are the primary performers of basic research in the United States, colleges and universities will do well out of the 1980 budget. The White House Office of Management and Budget (OMB) estimates that their federal R and D support will increase by ten per cent.

The Department of Defense always gets the lion's share of the government's research and development funds, and in 1980, a year in which President Carter wants to boost U.S. military expenditure, its share will be 45 per cent. The Pentagon has requested a 17 per cent increase in its basic research funds and wants to spend an additional \$40 million sponsoring university research as the anti-military sentiments of the Vietnam War disappear from American campuses, the Defense Department is trying to extend its links with faculty members.

The science budget is almost devoid of exciting new initiatives. Even agencies with generous funding increases will generally be spreading them around existing programs, rather than starting any big new efforts. For example the 8.4 per cent increase which brings the National Science Foundation (NSF) budget up to the \$1 billion level will benefit university scientists in almost every field.

The emphasis in the 1980 NSF budget is not a particular area of science but a drive to upgrade equipment and instrumentation across the board. The United States has been lagging behind Western Europe in equipping its laboratories, according to NSF Director Richard Atkinson. In an effort to catch up on European nations which have been devoting three times as much of their science budgets to instrumentation, the foundation plans to spend \$81 million on instrumentation for its research projects — 50 per cent more than 1979.

The National Aeronautics and Space Administration (NASA) budget includes no money for new space projects. NASA did apparently give the White House a list of new initiatives it wanted to pursue, ranging from a radar satellite to orbit Venus to an inexpensive upgrading of radio telescopes to search for extraterrestrial intelligence, but they were all rejected — in part because the agency's main venture, the space shuttle, is proving considerably more costly than anticipated.

Medical research popular

President Carter has asked for no additional funds for the National Institutes of Health in 1980. With inflation, this would suggest a substantial cut in medical research, except that (1) some of the huge increase voted by Congress for 1979 will be left over for the NIH to spend in 1980, and (2) medical research is still so popular politically that Congress is again likely to add generously to the administration's request.

Elsewhere in the health budget, the government proposes to abolish immediately its medical school capitation grants, which cost \$150 million a year. They are an indiscriminate subsidy, paid to all American medical schools according to the number of students enrolled. As the administration sees it, they have more than served their original purpose — to overcome the perceived shortage of physicians in the 1960s and early 1970s — and are now encouraging the medical schools to turn out too many new doctors. Institutional subsidies for the education of nurses also face the chop — for the same reasons.

Although the administration, and Health Education and Welfare Secretary Joseph Califano in particular, believe physicians as a whole will soon be in oversupply, they are so badly distributed, geographically and by specialty, that the budget requests more funds to improve medical services in poor rural and inner-city areas and to increase the proportion of doctors involved in primary care (general practice). The former goal is to be achieved by expanding the National Health Service Corps (NHSC), which pays a student's way through medical school on condition he or she practises in an underserved area for at



Perspectives on the Child: the Canadian Context

August 22-25, 1979

University of Alberta
Edmonton

A MULTIDISCIPLINARY CONFERENCE ON RESEARCH ON THE CHILD

THEMES: THE DEVELOPING, LEARNING, AND RELATING CHILD

mornings: plenary sessions on these themes
Thurs. **THE DEVELOPING CHILD** the influences affecting the intellectual, emotional, and physical growth of the child
Fri. **THE LEARNING CHILD** the processes by which the child acquires knowledge and skills
Sat. **THE RELATING CHILD** the relationships of the child with the family, peers, teachers, institutions, and cultural contexts

afternoons: research papers on selected topics

evenings: Wed.: keynote speaker
Thurs.: multidisciplinary discussion groups
Fri.: banquet

The preliminary list of speakers includes:
Dr. Myer Horowitz, President designate, Univ. of Alberta
Dr. Carol Hardgrove, Nursing, Univ. of California
Dr. William Fowler, Developmental Psychology, O.I.S.E.
Dr. J. MacNamara, Language Acquisition, McGill University
Dr. C. Cattani, Social Psychology and Law, Univ. of Toronto
Dr. W. Michelson, Sociology, Univ. of Toronto

Registration fee is \$75

FOR FURTHER INFORMATION
—conference registration
—call for papers

Name _____

Address _____

Contact: Perspective on the Child: The Canadian Context
Room 234, Corbett Hall, The University of Alberta, Edmonton, Canada T6G 2G4

Gov't responds ... from p.1

announcement by the Minister that he intended to encourage closer communications between the library community and the Publishing Centre through the establishment of an advisory committee for library relations.

Members of Parliament who joined in the protest at the urging of the CAUT were: Douglas Roche, Walter Dinsdale, J. Robert Howie, Leonard

Jones, Lincoln Alexander, Eldon Woolliams, Stanley Knowles, Robert Andras, Robert Muir, Herb Grey, Max Saltzman, Frank Maine, Harvie Andre, Cyril Symes, John Diefenbaker, David MacDonald, Les Benjamin, Dan McKenzie, Perrin Beatty and Jean Pigott. Also protesting were NDP leader Ed Broadbent, Senator Eugene Forsey and J.W. Bird, Minister of Natural Resources for New Brunswick.

H.B.

least four years after graduation.

By the time the fiscal year 1980 actually starts on October 1, the budget will have passed through the hands of the numerous appropriations committees and subcommittees of the Senate and House of Representatives and will certainly look different from President Carter's proposals discussed above. Countless lobbyists will have pestered key congressmen to give their special interests more generous treatment, and they will often have succeeded. (Pure science has relatively few lobbyists compared to many other sectors, such as agriculture, industry, defense, the environment, consumers, even education...)

Overall, however, it seems likely that science will emerge with about the same overall budget increase as the president wanted, though it will have been distributed differently. Friends of science, like Senator Edward Kennedy, have promised to restore the cuts proposed for medical research and education. And critics, such as Senator William "Golden Fleece" Proxmire (who chairs the appropriations subcommittee overseeing the NSF and NASA), have threatened to cut out anything that does not seem absolutely essential to the national well-being — which may be why NASA was not allowed to search for extraterrestrial intelligence.

Last June, the federal government announced a target of increasing total spending on Canadian research and development from 0.92% of the Gross Domestic Product to 1.5% by 1983.

Whether Canada's universities can realistically meet the objectives of the proposed program was debated by 300 educators, scientists and industry and government spokesmen, at a meeting last December 5-6. Participants at the Saskatoon conference, organized by the Canadian Federation of Biological Societies, agreed that the basic federal-university relationship, after many years of fruitful partnership, is rapidly changing.

FEDERAL SCIENCE POLICY

'A point of transition?'

Dr. Hugh Wynne-Edwards, Assistant Secretary of the university branch of the Ministry of State for Science and Technology, in addressing the question of how R & D is currently viewed by the federal government in terms of its overall planning and economic objectives, told the conference delegates that science and technology had reached a turning point in Canada and that R & D was now recognized as a national priority. In support of this statement, he pointed to Ottawa's announcement last June setting a national target of 1.5% of the Gross Domestic Product for R & D expenditures by 1983, to the series of investment tax credits and 150% tax write-off for Canadian firms investing in research operations, and to the First Ministers' Conference dealing with industrial R & D held in November 1978.

Wynne-Edwards reiterated the government's view that any future growth in Canadian R & D would have to be attained mainly through increased investment by the private sector; nonetheless, he felt that the entire research community might become directly involved in a national cooperative effort.

He predicted that steps taken by the Federal Government during the past 8 months will help bring universities fully into a national drive to foster industrial restructuring. The emphasis by NSERC on developing new strategic programs for research in "areas of national concern" for example, would orient university-trained manpower towards those sectors of the economy with growth and job potential, as well as contribute directly to problem solving. According to Wynne-Edwards, preliminary steps towards ascertaining "public priorities" in research and development are already evident in the Industrial Innovation Assistance Program, in "Regional Centres of Excellence" concerned with cold water engineering, organic soils and fermentation, and in the National Research Council's increased emphasis on solving problems in energy, oceanography and toxicology. Wynne-Edwards also cited other government measures to "create jobs for scientists and technicians" within industry and the universities.

The importance of these comments for university scientists rests largely on the redefinition and narrowing of attitudes toward research funding by the government through the three granting

University research and the national R & D program

by John Kucharczyk



"Shucks, I don't know what all you 'se folks is fussin' about — why me and Alastair's got one of them there industrial strategies. Heck, we is the world's biggest wood and water manufacturers."

Reprinted from Toronto Star.

councils. Wynne-Edwards made it clear that gone are the days when a scholar could freely choose and pursue his own line of investigation without reference to anyone else. The allocation of taxpayer's money to the support of science inevitably poses the problem of priorities in the distribution of these monies among the various sectors, fields and kinds of research and, he said, this process is a complex matter, "the beginning of which is public opinion reflected in the political expression of areas of national concern".

'Ramifications uncertain'

Mr. J. Meunier, Director of Finance and Administration at NSERC, confirmed that this recently formed council is developing new strategic programs directed towards achieving a "balance" between basic and applied research and in line with regional and national priorities.

Dr. Jim Roxburgh, Director of Grants at MRC, told the conference that the full ramifications of Bill C-26, whereby MRC inherited a broadened mandate to encompass health care, are still unknown. The MRC, he said, will endeavour to continue funding applications primarily on the basis of excellence, and would look to the federal government for additional "thrust funds" to support research in the health care field and "areas of national concern".

There was concern, however, that the route suggested for finding and then funding research topics of potential "national importance" probably would be, at best, a tenuous one. It was pointed out that while NSERC's and MRC's administrators and committees may correctly identify areas

currently favoured by politicians, the business community and the popular press, unless emergent policy statements are accompanied by cold hard cash for research, we likely will find ourselves with only an even larger collection of science policy documents bearing little or no relationship to the Canadian reality.

'Complete contradiction'

Given the nature of recent past events, this appears to be a legitimate concern. Last June, shortly after he declared that R & D had just become a "high priority" and would thereafter receive increased emphasis and attention in overall federal planning, Judd Buchanan convened an ad hoc committee of distinguished representatives from labour, business and the scientific community to advise his Ministry of how Canada could optimally reach the 1983 target. In November, the committee reported that to attain a total investment of 1.5% of the GDP within 5 years, industrial R & D must increase annually by 27%, government R & D by 10% and university research by 30%. Statistics Canada has already reported an increase of just over 8% for private sector R & D for 1978, and under Monique Bégin's recently announced funding formula for the MRC, predicted increases for that granting council for the next 5 fiscal years are 9.7%, 9.5%, 8.9%, 8.6% and 7.5%.

Scepticism about the federal government's commitment to stimulate R & D in Canada is heightened by the fact that science and technology fared very poorly in comparison with other areas in the Treasury Board cutbacks announced last September 8th. Expen-

diture reductions in science and technology budgets and the departments of Communications, Environment, Fisheries, Health & Welfare, Statistics Canada, MOSST and the Social Sciences and Humanities Research Program of Secretary of State, in each case represented over 25% of the total cutback for the department. In seven departments the cutbacks reduce total 1978-79 science and technology budgets by 10% or more.

Thus, the problem is not that certain fields of research are receiving designation as national priorities or "areas of national concern". Rather, it is that existing programs require considerable strengthening if the national R & D goals are to be met at all.

INTERACTION BETWEEN INDUSTRY AND THE UNIVERSITIES

'A new and vital partnership'

The feasibility of interaction between industry and universities was examined by participants from the two sectors concerned. Lloyd Clarke, Chairman of the Board of SPAR Aerospace Products and a member of NSERC, emphasized that, in seeking increased economic benefits for Canada from closer collaboration, primary attention should be drawn to the human factors that govern such inter-action. This, he suggested, would initially require an assessment of what individual priorities and personal pressures bear directly and indirectly on the relationship and thereafter, to determine ways of modifying the sectoral forces to produce a viable basis for sustained university-industry collaboration.

Clarke stated that since industry's primary objective is to ensure its continued ability to offer competitive goods and services to the marketplace, whenever economically practicable, the development of high-technology products and associated services would take place in-house. On the other hand, he felt that Canadian industrial development capabilities can advance only if the private sector has ready and reliable access to the fundamental knowledge which underlies technological innovation and this basic research, he suggested further, can in Canada be done only within the universities or government laboratories.

Between these complimentary but opposite ends of the R & D spectrum, Clarke believes that a "middle ground of applied research" could provide opportunities for close intersectoral collaboration without adversely affecting the fundamental priorities of either industry or the universities. What is needed at the outset, he argued, is simply more dialogue between the proposed participants.

Clarke offered some specific ideas for how universities might come together with industry and the governments to discuss national priorities in R & D. One suggestion was to create an academy or forum with representation from universities and governments on a national basis and from industry on a sectoral basis. The role of this body would be to define problems of an engineering and scientific nature within the Canadian economy that can best be solved through concerted action of two or more of the participating groups. This approach, he pointed out, has worked very well in Sweden in bringing the views of government, universities and industry into a consensus.

John Kucharczyk is Executive Secretary for Science Policy, Canadian Federation of Biological Societies and Project Director of the Task Force for Public Awareness of Science and Technology.

As a second measure towards facilitating intersectoral dialogue, Clarke proposed that all organizations responsible for research grants to Canadian universities should have increased representation from the industrial sector and in the case of applied engineering activities, this should be at the 50-50 level. Sabbatical participation by university researchers in industrially-based projects would assist this process further, especially if such a program were accorded the same level of recognition as sabbatical involvement in the traditional university-based exchanges. Encouragement should also be given to establishing university-based continuing centres of industrially-related research excellence based on groups rather than single experts. With the assurance of continuity provided by groups, Clarke felt that long-term industrial participation could be planned in confidence.

Finally, Clarke suggested that since the venue of applied research is largely decided by the relative economic advantages of the situation, corporate tax provisions should be modified to make it substantially more financially attractive to industry to contract out its research to universities.

'Existing workable interface'

Dr. Tom Clark, Director of the Office of Research Administration at the University of Toronto, reported that a workable interface between industry and universities already exists in several communities but needs more encouragement for future development. He listed several models which have evolved for such cooperation using as examples case histories from the University of Toronto.

Clark also pointed out that the University of Toronto's policy on related activities permits faculty members to work on their own time as professional consultants and this has led to the formation of a number of companies by groups of the university's researchers. He said that the expertise and advice of university scientists has resulted in the launching of many new industrial ventures and in the establishment of R & D in manufacturing divisions of existing companies.

Clark said that contracts between the University of Toronto and industry or branches of the federal or provincial governments have increased by over 60% over the past 5 years to about \$4 million or about 11% of the overall research budget of the University. About 40% of this had come from the federal government where his office of research administration plays an active role in establishing and administering contracts. He emphasized, however, the importance of individual university researchers and directors of the university's institute and departments in initiating contract cooperation and added that several other universities, including McGill, Waterloo and McMaster, also maintain well developed contracts offices, managed by a full-time senior person with an industrial background.

Another useful collaborative program, according to Clark, is the "membership arrangement" whereby a university-based research program is maintained by a large number of companies in return for which they receive certain privileges such as receipt of reports, participation in workshop discussion sessions, and access to test results. Clark also reported that several universities have active programs to advise on inventions made by their faculty. At the University of Toronto, the Inventions' Committee has the role of advising a scientist on how best to market his invention. Where the facilities of the University

have been used in the development of the invention, Clark said that revenues received from sale or licence are shared equally between the University and the inventor. The University of Toronto is now in the process of setting up an Invention's Foundation that will identify new discoveries with market potential and will act to bring together the financial, marketing, management, and manufacturing resources to fully exploit the invention.

'Managerial talent needed'

Despite the recent visible progress towards formalizing university-industry collaboration in R & D programs, several difficulties remain. Clark pointed out that many inventions disclosed to a university are only at a conceptual stage and, in these times of strenuous competition for research funds, faculty are understandably reluctant to devote the time, effort and their own grants to demonstrate the technical feasibility of their invention. The need for at least a preliminary market analysis to attract business involvement and to get venture capital complicates the problem further.

A second major difficulty, according to Clark, is that most scientists lack business expertise and therefore usually require managerial assistance in starting up their business operation. He proposed a federal small business program to provide strong incentives to existing able managers to set up their own enterprises around an invention and to deal with the problem that would-be scientists entrepreneurs have in obtaining venture capital, with marketing, and with finding appropriate licencing arrangements with high-technology manufacturers.

'Major collaborative proposition'

The Federal Government's approach to Industrial Innovation Centres, long in use in the United States and in other western industrialized countries, was described by Mr. Tom Clarke, of the Industrial Innovation

Centre Program (IICP), in the Department of Industry, Trade and Commerce. Mr. Clarke said that the objectives of the IICP as listed in his Department's submission to Treasury Board, are threefold: firstly, to stimulate increased Canadian technological innovation and new high-technology industry; secondly, to make use of university and college resources in strengthening the performance of small and medium sized Canadian technology-based businesses and in evaluating and commercializing inventions, and; thirdly, to encourage and support the entrepreneurial activities of Canadians wanting to start or expand technology-based companies.

Towards this end, Clarke said that if given Treasury Board approval the IICP will sponsor the development and presentation of specialized accredited courses in entrepreneurship and technical innovation to engineering, science, business or other degree-seeking university students and short courses or workshop sessions to other non-university students. Additionally, specialized assistance in the theory and practice of commercializing inventions would be offered to small and medium sized technology-based Canadian companies, students, faculty, or individuals in the community in overcoming actual problems faced in the marketplace. This assistance would begin with a preliminary investigation of the commercial feasibility of pursuing a particular discovery. A more in-depth evaluation of the potential marketability of the product would follow, in return for which the IICP would charge the inventor a percentage of future royalties or stock, or bonds in a new company formed around the invention. The next stage would involve the IICP investing in "seed" money in marketing the invention and assisting the inventor in preparing a detailed business plan so that it is more presentable to venture capitalists. Finally, the proposed industrial innovation centres would themselves conduct research and teaching to complement existing local services whenever possible.

As regards the structure of a typical Innovation Centre, Mr. Clarke suggested that closely coordinated development-teaching advice-assistants and research-study branches would be needed, with a major element in the overall structure being "satellite innovation centres" to accompany the five major Regional Innovation Centres. The satellite centres would allow the university or college where they are based to extend their courses on technological innovation to businesses, inventors and entrepreneurs located at some distance from the main regional centre. They are foreseen as operating as semi-autonomous divisions of the Regional Innovation Centre.

Although the Industrial Innovation Centres would necessarily need to work very closely with host universities, in particular with their faculties of engineering, science and business, Mr. Clarke suggested that they would not be controlled by their host university and should be federally-incorporated non-profit entities.

'If there's money'

If Treasury Board approves the recommendations for the IICP, start-up grants of as much as \$200,000 for each industrial centre will enable recipients to plan their submission for an operating grant, and to begin the development of the centre teaching courses and contacts with the local business community. Clarke stressed, however, that receipt of a start-up grant would not guarantee the subsequent award of an operating grant and that continued federal support would in each case be contingent on demonstrable satisfactory progress on a year-to-year basis. As a long-range expectation, Clarke said that the IICP may result in 8-10 year's time in a network across Canada of 5 Regional Centres accompanied by their satellite centres.

Whether industrial innovation centres will ever become a Canadian reality remains uncertain. It is known that as recently as February 1, Treasury

Trent University

invites applications from, or the nomination of, highly qualified individuals for the position of

PRESIDENT

to take office July 1, 1980.

The President is Vice-Chancellor, Chief Executive Officer, and also Chairman of Senate. The responsibilities of the President are to supervise and direct implementation of the educational policy and general administration of the University.

Personal and academic leadership are requisite qualifications. Salary is to be negotiated. Communications may be addressed in confidence to:



J.E. Leishman, Esq.,
Secretary, Presidential Search Committee,
Trent University,
Peterborough, Ont.
K9J 7B8

Board still had not approved funding for the IICP. Meanwhile, applications from groups aspiring to be on the 'list of five' continue to accumulate dust on bookshelves in vacated government offices in Ottawa.

UNIVERSITY RESEARCH

'In a precarious state'

Conference speakers agreed that there has been a marked erosion of the age-old consensus on the inherent importance of the university to Canada's overall welfare. In the absence of certified proof that this institution can almost at will produce immediately practical results in targeted areas of interest, it appears that university research is now measured by governments mainly in terms of fiscal accountability.

Dr. R. Levesque, Vice-Rector of the University of Montréal, told the conference that the current tendency to treat universities like pervayors of products, is regrettable.

Excellence in research and education, Levesque pointed out, cannot be easily evaluated when the standards are solely those of trade and commerce. The inability of universities to satisfy their sponsors, both in governments and in private industry, who are accustomed to such "normal business practices", has had painful consequences.

As funding for universities has effectively decreased over the last few years, academic positions have become scarce, teaching loads have increased, and obsolescent equipment has not been replaced. The purchasing power of the average MRC grant has fallen from \$24.9 thousand dollars in 1971-72 to \$18.7 thousand dollars in 1977-78, and for NRC grants from \$15.4 thousand to \$8.3 thousand. All of these factors have affected the quality of research and further stiffened the competition for federal funds.

'Manpower shortage'

Dr. Vivian Abrahams, President of the Association of the Scientific, Technological and Engineering Com-

munity of Canada, (SCITEC), presented data which suggests that the worst is yet to come. It is increasingly difficult to recruit and then retain top students in graduate research training since most quickly shift to professional programs which offer considerably more stability. The number of graduate students and the number of doctorates awarded in chemistry, for example, have both dropped steadily since 1972 suggesting that there will be a shortage of manpower in this area within 3-4 years time.

The Biological Council of Canada recently reported Statistics Canada figures showing that on the Physical and Applied Sciences the number of doctorates awarded has fallen by 45% since 1972-73, with concomitant reductions in the number taking up post-doctoral training. In the Life Sciences the same trend is apparent but the reduction less marked at -27%.

In referring to the prospects for increased industrial R & D in its Background Study No. 43, the Science Council remarks disparagingly: "Canada barely achieved half the rate at which the United States shifted its human resources into scientific work and the Canadian sector in which the failure occurred was manufacturing. It can only be inferred that the development of technological expertise received scant support in Canada".

PROV. GOVERNMENTS AND NATIONAL SCIENCE POLICY

'Help from the provinces'

Recent moves by several provincial governments to support university R & D generally were applauded but several speakers suggested that provincial efforts in this area should complement rather than duplicate those of the federal government.

Dr. Don Savage, Executive Secretary of the CAUT, said that faculty members through the agency of the CFBS and CAUT had done a first-rate job of making federal funding of research through the granting councils



a live political issue.

However, he urged representatives of universities present at the conference to focus both on the matter of general funding of the universities as well as on the particular case of biomedical research.

"We should not forget that for most of us scientific research takes place in the university. Thus, if the university is crippled financially, there will be no possibility of continuing with the type of research to which we are accustomed", he told the conference.

Savage also felt that university faculty should not be put off by the political bromide that the costs of higher education are out of control and must be severely restrained. He pointed to the fact that university expenditures as a percentage of the provincial budget in Saskatchewan have now receded to the 1961 level and that Saskatchewan is one of the more reasonable governments in the area of funding. (See table on page 14).

"It is vital that we focus on a strong federal presence in funding post-secondary education and also on lobbying provincial governments on behalf of the universities", he said. "We must make sure that our efforts in the next federal election are not a one-shot affair but part of a professional lobbying campaign at both the federal and provincial levels."

THE CANADIAN HEALTH INDUSTRY

'University Biomedical Research Should Be A Major Canadian Enterprise'

At the heart of this issue is the profound economic and social importance of the Canadian health care industry. Expenditures on health care currently comprise almost 8% of our Gross National Product. In employment terms, over 4% of the country's labour force is engaged in providing services in the health care sector. As a proportion of total public sector effort, health expenditures play an even more prominent role. Over 8% of federal spending and nearly 30% of provincial governments' expenditures are taken up this way.

"Can it be said," asked Dr. R. Beck, after reviewing this evidence, "that there are no policy issues relating to the management of this massive sector that merit the maintenance of a research endeavour to support it?" His ready-answer was an unequivocal "no" — "the demands for research support for the health sector have increased rather than diminished."

According to Beck, the health programs themselves are in jeopardy

unless some of the plethora of cost and quality issues are resolved through more research. He argued that the very proposition which underscores current government program policy — that improvement in health status is readily attainable by modifying life style — is without a firm factual basis. "Canadians now threatened with exotic new viruses demand more than simple counsel that they must improve their life style".

The second expression of current federal health care policy of concern to the research community, according to Beck, is that Ottawa wants a greater role for the private sector.

Beck believes that private industry cannot be expected to provide the main underpinnings for future initiatives in biomedical research.

"Part of the reason for this," he suggested, "is that health research is in every sense a public good... Benefits accrue not to the sponsor but to the public at large. Industry can only reasonably be expected to share in specific types of research where benefits can be internalized."

A similar view was held by Major-General W. Garton, President of the 70 company member Pharmaceutical Manufacturers' Association of Canada. Garton told the conference that drug companies have been beset in recent years by a barrage of independent and unrelated government actions that in the aggregate have had an adverse impact on what had until the end of the 1960's been the most research-intensive industry in Canada.

The singularly major culprit here, according to Dean B. Riedel of the University of British Columbia, was Bill C-102, which when proclaimed in 1969 amended the Patent Act, the Trade Mark Act, and the Food and Drug Act. Riedel said that this legislation at once nullified most of the industrial benefits of an internationally accepted system of patents for drugs. The growth in pharmaceutical R & D in Canada, which averaged 18% annually from 1963 to 1969, fell to 9.6% during the period 1970-77, and is estimated to be only 4% in 1978.

If the recent past experiences and present attitudes of pharmaceutical companies are representative of Canadian industry as a whole, the consensus was that the government's target of greatly expended private sector R & D would not be met. The political and investment climate is apparently not one which would attract multinational companies to invest in research and expand operations in Canada. Smaller manufacturing companies and individual entrepreneurs, potentially R & D active, are finding that enumerable bureaucratic reviews, reports, approvals, and restrictions obscure any possible advantage of recent government incentives.



"Are you coming hunting, or are you gonna sit around here all day inventing?"

DALHOUSIE UNIVERSITY

invites applications from, or nominations of, highly qualified individuals for the position of

President

Established in Halifax in 1818, Dalhousie University has an enrolment of more than 8,500 students, full-time and part-time. There are Faculties of Arts and Science, Administrative Studies, Law, Medicine, Dentistry, Health Professions and Graduate Studies. Under the statutes, the Board of Governors is responsible for the operation of the University and the Senate for the internal regulation of affairs, subject to the approval of the Board. The President is the chief executive officer, responsible for supervision of the administrative and academic work of the University.

Candidates should have qualifications appropriate for appointment to a senior academic position, administrative experience and proven leadership ability.

The appointment will normally be made for a term of six years and is effective in August 1980. In appropriate circumstances the term can be renewed. The salary is negotiable.

Written applications or nominations, accompanied by a resume of qualifications, should be sent before 31 May, 1979, to:

Miss Z. Linkletter
1216 Robie Street
Halifax, Nova Scotia
Canada B3H 3C9

Total provincial expenditures on university education as % of total provincial expenditures

	1961-62	1968-69	1974-75
Saskatchewan	7.5	16.2	7.9
Manitoba	14.9	14.9	11.9
Ontario	11.7	17.9	9.2
Quebec	9.0	8.0	7.3
New Brunswick	7.6	10.7	8.1
Nova Scotia	11.2	23.7	10.2
Prince Edward Island	2.9	8.5	4.7
Newfoundland	3.2	6.5	6.3
Alberta	6.0	13.0	8.2
British Columbia	7.1	12.7	7.0

(1972-73)

*Statistics Canada Catalogue No. 81-208, 81-560.

CANCER CLINIC DIRECTOR

The Ontario Cancer Treatment and Research Foundation invites applications for the position of Director of the North Toronto Cancer Clinic at the Sunnybrook Medical Centre, Toronto, Canada. The position is new, and the clinic is being designed for an expected maximum of 2,500 new adult patients per year. The clinical program will provide consultation with all oncologic subspecialties with facilities for the administration of radiotherapy and chemotherapy, and opportunity for research. An appointment in an appropriate department of the University of Toronto, and to the staff of Sunnybrook Medical Centre would be negotiated.

Salary is open to negotiation. Applications with curriculum vitae and a list of 3 referees should be forwarded to Dr J. W. Meakin, Executive Director, The Ontario Cancer Treatment and Research Foundation, 7 Overlea Blvd., Toronto, Ont., Canada M4H 1A8 Tel. (416) 423-4240. Applications will be accepted for 4 weeks after the date of this advertisement.

TRENT UNIVERSITY

invites applications to the following tenure-stream position:

ASSOCIATE PROFESSOR

Department of Psychology

Applicants should have completed PhD., experience teaching in University, applied or clinical field experience, and experienced Applicants not presently in academic settings are encouraged to apply.

Candidates should send an up-to-date curriculum vitae, a statement of teaching and research interests, and the names of three references to:

Professor Gordon Winocur,
Department of Psychology,
Trent University,
Peterborough, Ontario. K9J 7B8

The University of Alberta

invites applications from, or nominations of, highly qualified individuals for the position of

VICE-PRESIDENT (ACADEMIC)

Both male and female members of the academic community are invited to consider the position.

The Vice-President (Academic) is the senior vice-president and in that capacity serves as Acting President whenever necessary. The Vice-President (Academic) is assisted by three Associate Vice-Presidents.

Candidates should have achieved distinction in an academic field and should have appropriate administrative experience.

The appointment is expected to commence July 1, 1979 for an initial term of five years.

Written applications or nominations, which will be received until April 30, 1979, should be accompanied by a curriculum vitae and the names of three referees.

Please address replies to:

Dr. M. Horowitz, President-Designate and
Chairman of the Search Committee
Room 3-5, University Hall
The University of Alberta
Edmonton, Alberta
T6G 2J9.

Royal Military College of Canada

Kingston, Ontario

Nous offrons des postes pour enseigner en français.
Les spécialités montrées sont préférées.

Chimie
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Mathématiques
Méthodes numériques - programmation

Génie civil
Structure, géotechnique, environnement et sanitation.

Génie électrique
Automatisme, électrotechnique, théorie des circuits-systèmes logiques - ordinateurs.

Génie-Gestion
Gestion de la fabrication - assurance de la qualité.

Génie mécanique
Sciences des matériaux, design, dynamique des fluides, thermodynamique, écoulement compressibles, transfert de chaleur, vibration - dynamique des systèmes physiques.

Le doctorat ou l'équivalence démontrée par des travaux reconnus est préféré.

Les candidats qui ont atteint le niveau de la maîtrise et qui ont démontré un potentiel pour les études avancées seront sérieusement considérés.

La connaissance des deux langues officielles est requise.

S'adresser au:
Dr. Pierre Bussiès, Assistant au Principal
Royal Military College of Canada
Kingston, Ontario K7L 2W3

The adventures of a manuscript

Reflections on publishing in the humanities

by Michael Cardy

In an article entitled "Research and Publishing in Humanities", which appeared in the *CAUT Bulletin* in June 1974 (pp. 4-7), Professor Alan Wilshire wrote amusingly and cogently about the difficulties and delays involved in publishing almost anything related to a subject in the Humanities. With far too much unpublished work chasing far too few outlets, and given the dilatory habits and courtly pace of many editors, Wilshire correctly concluded that "the scholar in the Humanities is rapidly reaching the stage where, unless somebody recognizes his plight, he will need divine intervention to get into print" (p. 7). I should like to show that judgment is correct, that the situation has not changed since the appearance of Wilshire's article, and to illustrate his conclusion by recounting the peregrinations of an article of my own which, before it finally reached a happy haven in the pages of a learned journal, had performed journeys of such epic extent and possibly time as to rival the wanderings of Ulysses. I realize that academics, like other human beings, are normally pretty coy about admitting their failures, and I am not prone to shouting my own from the rooftops; but I believe that, by providing a concrete, individual case history illustrating Wilshire's thesis, I may induce colleagues to think a little more deeply about the publication treadmill we all seem doomed to suffer and about the type of outlet available for the publication of short pieces of research in the Humanities.

It is of course virtually impossible to speak objectively about one's own work. Suffice it to say then that, judging with such humility as I possess, my article dealt with a topic of interest to almost everyone working in my general field of study; it was also solidly documented and clearly not composed by an illiterate. I sent it, in all, to six journals which, in order to preserve the strictest anonymity, I shall indicate below solely by a letter symbol. Whenever, in its travels, the article had to cross the Atlantic, it journeyed via airmail. In relaying the remarks of editors, I shall refrain for the most part from quoting *verbatim*, preferring instead paraphrase, on the ground that their actual words are in some sense privileged.

Journal A

1970

The editor's reply was courteous and reasonably prompt. He declined to publish the article in its present state but invited submission of a revised version, appending three useful suggestions for improvement, which indicated quite clearly that my work had been carefully read by specialists in the field. The suggestions related particularly to the documentation, lacking in one or two significant places, and to the sources of the idea the history of which I was attempting to trace.

1972

The author is Associate Professor of French at Brock University.

The delays were not necessarily one-sided. Other work and obligations intervened and it took me almost exactly two years to submit the revised text. The editorial decision, communicated within two and a half months, was again negative, though the editor was kind enough to state that the article was indeed an improvement over the original version; he added that I might have a greater chance of publishing the article if I submitted it to a journal more specifically concerned with the history of ideas (I did wonder why this suggestion had not been made in 1970). There followed six more minor

cle had not been read at all; the editor's comment was too vague for credence and had the tone of a man clearing work off his desk after his return from summer vacation.

Journal C

1974

I sent the article to Journal C on September 20 and the letter of rejection was dated October 18, which might have led me to the same conclusion as in the case of Journal B, except that the editor made reference to an article, omitted from my bibliographical apparatus, which was undoubtedly



Graphic—Tom McDonald

corrections and suggestions - the latter again related to sources - most of which I incorporated into a second revision of the article. The net result of the revisions I had made to that date was a substantial expansion of the first part of the article.

Journal B

1974

After further delays on my part, the newly-revised article was submitted to Journal B in July, 1974. The editor returned it in September, declining to publish owing to pressure of space, although he stated that he would have gladly published it otherwise. I am unkind enough to suspect that the arti-

relevant to the subject. The readers must therefore have been immediately accessible to the editor who, in expressing the hope that I might be able to publish in a less specialized review, remarked that his readers considered the article to contain a good deal of well-documented and competently-written material.

Journal D

1974

The cumulative effects of the comments made up to this point on the article had been sufficient to convince me that it was indeed worthy of publication. It was sent to Journal D on December 31 and the reply was

dated 27 January 1975. Again a remarkably swift decision. The reader, singular this time, opined that the article had a worthwhile theme, which had been skilfully traced over two centuries, but he considered that the piece was not "tightly written" enough for publication. This judgment represented the first rejection on stylistic grounds, an opinion that seemed to run counter to the views expressed by the readers of the first three journals, none of whom had found fault with my writing.

Journal E

1975

The article, sent on 3 February, was rejected in a letter dated 8 October. The editor was generous enough to include photocopies of the detailed comments of both readers, which made a fascinating contrast. They both agreed that the introductory section of the article was too long - although I had worked hard to expand it in response to objections by the readers of Journal A - and concurred over one or two other points of detail. Their overall assessment differed substantially however. The judgment of the first reader was clearly favourable, subject to cuts being made in the opening section and to a rather better focussing of the argument. The second reader was a good deal more hostile and was particularly upset by what he termed my "pessimistic" or "gloomy" conclusion, though I would have called it guarded or cautious (it did occur to me to speculate whether a historian of the First World War, say, would arrive at an optimistic or happy conclusion!) This reader considered certain of my references as "superficial (and sometimes irrelevant)" and suggested that the topic be recast in order to show the influence of the idea on later thinkers, a study I was not likely to undertake since it had already been treated, in a brilliant and lengthy article referred to in one of my footnotes, by a well-known scholar of the period. By this time, in any case, I had no intention whatsoever of recasting anything and was determined that the article, if ever it did appear in print, would be published *tel quel*.

Journal F

1976

Not quite in a mood of despair, but certainly pessimistic and gloomy, I sent the article to the famous editor of a well-known series, a man with an international reputation both as a scholar and as an idiosyncratic individual. He replied, almost by return of post, accepting my article, which he had found "interesting and suggestive". It appeared, without editorial change, in the late fall.

Robert Frost begins one of his finest poems with the line: *My ship is in the harbour now*. I know exactly how he felt.

This article is not written in any spirit of bitterness, pique or (even less) revenge, as I am temperamentally incapable of bearing a grudge against anyone for more than ten minutes; nor did my career or a promotion depend upon publication of the article:



Why profs can't write

by Donald Holden

Like most of my friends in book publishing I groan when I get a thick package from a university.

Inside the envelope, I know there's a manuscript from some professor who's bucking for a raise, a promotion, tenure — a manuscript that serves no one but the professor himself and some faculty committee.

I know that the book will be written in the illiterate scholarly jargon that publishers (and cynical graduate students) call "dissertationese." Because we try to give every author a fair hearing, my staff may spend hours putting the manuscript through its paces. But in the end, I know that almost certainly the book will be rejected.

Publishers know that most professors are bad writers. The professor's grammar, spelling and punctuation are usually passable, but his prose is apt to be pretentious, unclear and chaotic. And like most people who write badly, he does it on purpose. As George Orwell points out in "Politics and the English Language," bad prose doesn't happen by accident: it's a conscious attempt to deceive.

"Dissertationese," the standard lingo of doctoral dissertations, is the language that professors use to

disguise self-contempt with pomposity. The scholar, who often spends his professional life counting the cats in Zanzibar, secretly knows that what he has to say is unimportant. So he inflates his diction, convolutes his sentences, and builds a complex scholarly structure (with lots of footnotes) to make the content sound important.

Faculty committees — who grade him on how well he plays the academic game — may be impressed, but publishers are not.

The publisher also knows that bad writing usually hides (or tries to hide) intellectual laziness. Every experienced editor can tell you the real purpose of those turgid, ponderous sentences: They're designed to conceal the fact that the writer hasn't taken the time to figure out precisely what he wants to say. And why is the professor's "story line" so chaotic and bewildering? Not because his ideas are so lofty, but because he's dodged the writer's toughest intellectual job — to link his facts in a tight, logical chain.

Even an inexperienced editor soon discovers that bad academic writing (like political speeches) can be a subtle form of lying.

Reprinted from THE NEW YORK TIMES



Adventures . . . from p. 15

throughout the period of its wandering other writings of mine were being accepted and published. I do not question the academic standing of any of the journals to which I submitted the article — I send my work only to journals of which I approve, though I do not necessarily approve of them for the same reasons — and I certainly do not seek to cast doubts upon the integrity and scholarly merit of their editorial boards. My aim has been to illustrate, through an individual instance, Wilshire's claim that publishing in the Humanities is a lengthy, patience-testing business. And a chancy one; and it is at this point that I wish to carry Wilshire's views rather further.

When scholars of note differ so radically over the content, organization and style of an article dealing with relatively well-known texts, one begins

to wonder whether there is not room, in each major Humanities discipline, for a least one journal that would act as a true platform for the exchange of scholarly ideas. By this, I mean that the editor of such a journal would dispense with the services of specialist readers of work submitted and, relying upon the views of his editorial board and his own judgment, would publish articles likely to provoke dissent and criticism. If dissenting views were actually published in the same, or a subsequent, issue then the journal could emerge as a genuine forum for the discussion, perhaps even at times on a polemical level, of significant scholarly questions. One could turn to such a journal without experiencing that sinking feeling that must afflict everyone confronted with certain essential (but just a teeny bit stodgy?) journals in his own field. The overall aim of a journal of this type

would be to recapture in print something of the spirit of a scholarly paper presented at an academic conference together with the subsequent discussion. To achieve even greater impact, each issue of such a journal could well be devoted to a given theme. The book based on the Cerisy conference of 1966, *Les Chemins actuels de la critique* (ed. Georges Poulet, Paris, 1968), provides a model of what such a journal might become if blessed with an editor of genius.

The problem raised by Wilshire in his article will likely never be solved: there will always be too much unpublished work and too few journals.

The problem is compounded by the nature and functioning of most of the journals that do exist. If ever a time arrives when the situation of the scholar in the Humanities is deemed worthy of reconsideration and reform, then any new initiatives should include a study from a fresh perspective of the available journals and their *modus operandi* and such initiatives must be accompanied by a determination to ensure that any new journals created should respond more nearly in their formal structure to the disputatious and unfinished nature of almost all worthwhile research in the Humanities.

THE UNIVERSITY OF MANITOBA

invites applications and nominations for the position of

DIRECTOR SCHOOL OF SOCIAL WORK

The University of Manitoba School of Social Work offers an undergraduate program of professional social work education and a graduate program offering specialization in social policy, planning and administration and social-clinical intervention. Through the Continuing Education Division the School offers certificate programs, seminars, institutes and workshops for professionals. There are 250 undergraduate and 40 graduate students. The undergraduate program of the School is offered to full-time and part-time students, in regular session, spring intersession and summer session in both day and evening periods. The School has been a pioneer in preparing students for northern and rural social work practice and has a very active research program.

Candidates should have achieved distinction in a major field of Social Work and should have appropriate academic and administrative experience.

Canadian citizens, landed immigrants, and others eligible for employment in Canada at the time of application are especially encouraged to apply.

The appointment is expected to commence July 1, 1979 for a renewable five to seven year term.

Applications and/or nominations will be received until April, 1979. Please address replies to:

Provost K.R. Hughes,
University of Manitoba,
Room 202, Administration Building,
Fort Garry Campus,
Winnipeg, Manitoba, R3T 2N2.

University of Victoria

SCHOOL OF NURSING Director

Applications are invited for the position of Director, School of Nursing, University of Victoria.

The School of Nursing presently has one baccalaureate (BSN) program for Registered Nurses. Planning for undergraduate (basic) and graduate programs is in progress.

The School of Nursing is part of the Faculty of Human and Social Development which also includes the Schools of Social Work, Child Care, and Public Administration.

Experience in administration in the university setting as well as appropriate professional qualifications and experience are required. Preference will be given to candidates with a doctoral degree. Appointment level and salary will be commensurate with qualifications and experience. Applications with C.V. and three referees should be sent to:

Dean of the Faculty of Human and Social Development,
University of Victoria,
P.O. Box 1700,
Victoria, B.C.
V8W 2Y2.

A community aid scheme that is reshaping views of learning

Andrew Quarmby reports from Nepal on the successes of the country's new study-service plan.

Urban students harvesting sugar cane, British students tutoring younger students, and Nepalese students helping villagers to create simple tree nurseries for village reforestation—all are examples of a steadily developing phenomenon called "study-service", the inclusion of a period of community service as part of an educational curriculum.

Study-service in practice continually defines the term, rather than the converse. A written definition is needed only as a loose framework to help keep discussion to a reasonable focus. One current definition is that study-service is "a period of community service that is a required part of an educational curriculum".

Three distinct streams of development of study-service exist—differing responses to the differing needs and circumstances of countries as determined by their geography, history, degree of industrialization, national ideological inclinations, and so on.

Study-service schemes in countries such as Britain, Canada, New Zealand and the United States tend to be voluntary and part-time and oriented to urban social needs. The nearness of service locations makes it easier to link service activities closely to aspects of academic curricula.

Study-service or related schemes in such countries as China, Cuba and Russia, and in Eastern Europe, tend to include a more clearly defined element of political education.

But in many Asian, African and Latin American countries, study-service tends to be full-time, oriented to rural development, and with service as a curriculum requirement.

World-wide interest in study-service has grown markedly in the past decade as a result of its potential to tackle several different and important problems. These include first, the increasing graduate unemployment resulting from attitudes and expectations of graduates not matching social, economic, and political realities; secondly, the shortage of educated manpower able and willing to work where it is very much needed, such as in remote rural areas lacking in facilities, or in low-prestige roles in community institutions; thirdly the frequent inability of educational reforms to break through the conservatism of education systems; and finally the need for more positive and constructive relationships between students and governments without losing the students' valuable potential as critics and conscience.

A description of the form and effects of one national study-service scheme, Nepal's National Development Service (NDS), indicates why study-service is attracting increasing international interest.

Since 1974, Nepal's national and only university has required all students at degree level to complete a year of development work in remote rural villages, under university and local supervision, before being allowed to begin their final three semesters of academic study.

Each participant works partly as a

teacher (thereby helping meet the great shortage of rural secondary school teachers) and partly as a development worker in the surrounding community, using the school as a base and involving the school children as assistants.

Activities include health and nutrition education, reforestation, improvement of water supplies, sanitation, roads, bridges and public buildings, literacy teaching and non-formal education, family planning promotion, and the mobilization of local resources of funds, materials and voluntary manpower for community projects.

Although the scheme has many weaknesses and is still small (800 participants a year at present, soon rising to 3,000 when service is introduced two years earlier in the higher education pyramid), the NDS is already giving clear signs of its impact.

University lecturers report that returning students are more mature and serious about their studies, and that curriculum content of questionable value or relevance to the Nepalese situation faces increasing challenge in the lecture room.

Villagers, slow at first to appreciate the students, are now highly appreciative, particularly of their comparative lack of self-interest — "they plant trees the fruit of which they do not take, and make tracks on which they do not travel". Villagers are pressing local political leaders and locally assigned officials to emulate the NDS participants to such an extent that the NDS leadership is urging participants to keep low profiles and to work through local leaders, letting them share the credit.

Relationships between students and Government, increasingly tense until 1975, have steadily changed into a positive, constructive partnership. Students are still critical, but they criticize more maturely and are listened to more, with increased mutual respect between students and Government.

If the healthier student and Government dialogue is one very important result of the NDS, another is that, because service is a requirement for all students, in time all Government officials, teachers, lecturers, business people, and politicians who are graduates will have had this profoundly educating experience of service in the villages which are the basis of Nepalese society. Nepal's future national leaders, including those from the urban elite, are being required to understand the realities of the country they will lead.

International support for study-service has steadily grown as its potential has become clear. Organizations such as UNDP/UNV, the World University Service, the Canadian International Development Agency, the International Development Research Centre, the Commonwealth Fund for Technical Cooperation and the Ford Foundation have all helped. The interest and practical help of UNICEF stands out in particular, a result of some UNICEF representatives seeing

the potential for study-service to supply educated manpower for the village-level development activities that UNICEF supports.

UNESCO's involvement has been comparatively late and slow, but momentum is now increasing. UNESCO's section dealing with higher education recently prepared and released a report based on information obtained from some of the world's study-service schemes. Although the report was tied largely to questionnaire answers and limited in coverage and analysis, when it is considered at the twentieth general conference it should serve as a stepping stone to greater UNESCO involvement.

The report underlines the great need to gather, analyze and disseminate further data in this field. There are wide gaps. For example, significant study-service developments in some Asian and African countries go unreported, as do developments in Britain—although Community Service Volunteers (with funds obtained

directly as a result of UNESCO's interest in study-service) is currently undertaking a survey of study-service in Britain.

A detailed analysis of the objectives, methods and results of significant study-service schemes is needed, as well as studies comparing the methods and results of study-service schemes with those of other forms of service schemes such as conventional voluntary service and post-graduation national service.

UNESCO's existing raw data, if supplemented, could be re-analyzed and published. A study-service reader is needed, bringing together edited versions of existing articles by various authors on different aspects of study-service. Financial and organizational support is needed for exchange visits and study tours to enable people involved in planning or running study-service schemes to observe them in operation in other countries.

All these activities UNESCO could do, working either alone or in cooperation with other international or national agencies or non-governmental organizations. All would greatly help meet the need for study-service information and would help UNESCO to compensate for its late start in a field in which it should logically be a leader. In the words of an African educational planner: "Must we be condemned to repeat the mistakes of others by learning only through our own experience? Can we not also learn from others' mistakes and successes?"

The author is co-organiser of the Study-Service Staff Training Workshop Series in Katmandu, Nepal.

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Memorial University of Newfoundland

Professor and Chairman of Medicine

Memorial University of Newfoundland invites applications for the position of Professor and Chairman of Medicine. The successful candidate will be the Chairman of the Department of Medicine at the General Hospital, and senior consultant in other affiliated hospitals.

Memorial's Medical School and the General Hospital have now moved into the new Health Sciences Centre.

Candidates should have Canadian Royal College qualifications or equivalent and be eligible for licensure in Newfoundland.

Applications or inquiries should be directed to: Dr. D. A. Hillman; Chairman, Pediatrics; Chairman, Search Committee; Faculty of Medicine; Memorial University of Newfoundland; St. John's, Newfoundland; A1B 3V6.

Memorial University of Newfoundland

Professor and Chairman of Obstetrics and Gynecology

Memorial University of Newfoundland invites applications for the position of Professor and Chairman of Obstetrics and Gynecology. This is the senior academic appointment in the Discipline. The successful candidate will also be the Departmental Chairman in one or more of the major teaching hospitals, and Senior Consultant in other affiliated hospitals.

As Chairman he would also have facilities in the Medical School which is located in the new Health Sciences Centre.

Candidates should have the Royal College qualifications or equivalent and be eligible for licensure in Newfoundland.

Applications or enquiries should be sent to Dr. G.J. Johnson, Chairman, Obstetrics and Gynecology Search Committee, Faculty of Medicine, Memorial University of Newfoundland, St. John's, Newfoundland, A1B 3V6.

Pensions . . . from p. 36

The Social Security Pensions Act of 1975 embodies these principles. It provides for a basic pension — equivalent to our OAS except that it rises regularly with the higher of the CPI or average earnings — and an earnings-related pension similar to our CPP/QPP. Furthermore the Act provides for the continuation of private pension plans; both with a degree of integration with the state system. Private plans must receive permission to contract out of the state plan (for the earnings related portion of the pension in order to get a reduction in their required contributions) but permission is dependent on their plan providing a pension at least as good as what would be available through the state plan. This means that they must provide for full indexing (on this minimum amount) but they can limit their liability for indexing to 5% by making a lump sum payment to the state plan at the time the pension becomes payable — i.e. they can buy insurance.

One other issue that is dealt with by Pesando is the matter of what happens to the employee on a fixed benefit plan who changes employers from time to time. Here the proposed solution is to index the pension from the time the employee leaves each employer. Some government plans already provide for this in Canada although indexing is only based on the CPI. Once again employers can generally afford to do this since if there is inflation earnings on the pension fund will increase (at least provided the fund is not locked into long term low yield securities).

A more equitable procedure — and the one required under the new United Kingdom legislation — is to index the deferred pension with respect to

average earnings which should rise somewhat faster than the CPI. This extra cost would, of course, have to be paid either by the continuing employees or subsidized by the government. And even with this adjustment the employee might be somewhat worse off than if he had remained with a single employer if he is in an occupation where real income tends to rise over one's working life. However presumably many mobile employees improve their economic position by moving over what it would have been if they had remained with a single employer. So probably equity would be served in the long run.

All of the above has been based on fixed benefit plans of the type essentially required under the new United Kingdom Act. However Dr. Pesando does deal with money purchase plans although rather briefly. He suggests that once again the annuity ought to be purchased on the basis of the real rate of interest with the excess money earnings being used to provide indexing and with government insurance to provide for any excess indexing payments necessary. However this does not provide as much protection as a "highest average earnings" plan since the money purchase pension fund could be very depressed at the time of retirement. Nevertheless it would be an improvement over present arrangements.

In summary, indexing imposes no real costs on the economy — it simply ensures that pensioners will get, in real terms, what they have been promised. However, because pension fund earnings are not likely to adjust fully and promptly to inflation, private pension plans are likely to be unwilling to undertake guaranteed full indexing. However this problem is being partly met, albeit very slowly, as issuers of debt move at least part of the way to

CAUT BULLETIN

Advertisements

To ensure inclusion advertisements should be mailed to the CAUT office 25 working days prior to publication date.

The CAUT Bulletin is published six times during the academic year: September 1, October 1, December 1, February 1, April 1, May 1.

indexing (through variable rate mortgages, floating rate loans and extendible / retractable bonds). More importantly — particularly if private pensions are to be indexed now — the government can and should provide for insuring the indexing of private pensions. This insurance could apparently be provided at no long run cost to the government.

E.D. Maher
University of New Brunswick
August 8, 1978

Hazards . . . from p. 21

would claim, the stage of development of the university at the time.

In addition to these various accounts of the university as a Sanctuary of Truth, Sanctuary of Method, and Social Service Station, which in their emphasis on topics and ideas reflect the various strengths and weakness of national cultures in their realization of these aspects of the university in the modern context, there is a discussion with Richard Hoggut. He provides a simplistic defence of a new ideology currently being proposed for the

university, the view of higher education as a Culture-Mart. (The most thorough advocacy of this view is to be found in the Ontario Wright report). Hoggut, while denying consumerism, envisions art as the vehicle of a Universal grammar to provide a world community. Art is communication, and if education facilitates communication, then education rather than being a hazard, is an untapped resource, for men are more capable than we imagine. The problem is not one of excess input into limited capacities, but insufficient input for a more democratic community than that displayed by the social service meritocracy and the professional elitism fostered by the Sanctuary of Method.

Thus, like all hazards in education, one gains insight in spite of the limitations of this book. One of the pities is that Urban's insights into higher education in Eastern Europe, where he does have something valuable to say, are scattered throughout the book in the context of questions. Someone should have interviewed Urban to add another important dimension to the picture.

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AMNESTY INTERNATIONAL

by Jean Sonnenfeld

Amnesty International Report 1978 (Part 1)

The Amnesty International Report 1978 describes human rights violations of concern to AI in 110 countries. Every type of political system is covered in the report's catalogue of political imprisonment, torture and executions during 1977-78.

During the period covered by the report a number of governments ordered the collective release of political prisoners by amnesty or other means — among them Guinea, Haiti, Indonesia, Iran, Paraguay, Rhodesia, Tanzania, Vietnam and Yugoslavia. Some amnesties left many prisoners of conscience still imprisoned, for example in Indonesia, Rhodesia, Syria and Yugoslavia, whereas others were evidently far-reaching, for example in Haiti, Mali, Spain and the Sudan.

In many countries of the Middle East and North Africa political prisoners frequently had no access to fair trial and often received no trial at all.

World attention focused on the Arab-Israeli conflict, and some human rights violations were directly connected to that conflict. For example, AI continued to work for Palestinians who were convicted or detained without trial by Israel for their critical attitude toward Israel's presence in the Occupied Territories rather than for violent activities. In Egypt, a number of people who distributed leaflets criticizing President Anwar Sadat's November 1977 visit to Israel were detained.

However, by far the greatest number of human rights violations in the Middle East and North Africa related to issues not at the centre of world attention. In Iraq alleged Communist party members were executed as suspected Kurdish dissidents, many of whose relatives were also imprisoned. Hundreds of people of Saharan origin remained in detention on account of their ethnic origin. In Syria alleged sympathizers of the Iraqi Baathist Party, Marxists and Moslem Brethren were imprisoned. In Iran People in leftwing and religious opposition alike were imprisoned, while in Algeria former President Ahmed Ben Bella spent his 13th year under house arrest.

Several countries in Western Europe — the Federal Republic of Germany, Italy, the Republic of Ireland, the United Kingdom — have introduced special legislation to deal with terrorism. During the year under review, no one imprisoned under such legislation was adopted by AI as a prisoner of conscience.

However, the report describes AI's concern that such legislation, by simplifying or removing some of the protections normally available for individual rights, increases the possibility of maltreatment of arrested suspects, circumvention of norms of fair trial, or imposition of "cruel, inhuman or degrading" conditions of imprisonment.

All of the countries of Eastern Europe and the USSR retained legislation (usually under the rubric of "crimes against the state") prescribing imprisonment for exercising the rights of freedom of conscience in ways disapproved of by the authorities and for trying to leave the country without official permission. Czechoslovakia, Poland, Romania and the USSR also imprisoned dissenters on criminal charges ostensibly not related to the political motivations for their imprisonment, for example "parasitism", "hooliganism", "espionage".

The USSR and Romania are two countries where AI has established beyond doubt that prisoners of conscience are labelled mentally ill and forcibly confined to psychiatric hospitals for political rather than authentic medical reasons.

Amnesty International Report 1978, 320 pages, is available from Amnesty International Canadian Section, 2101 Algonquin Avenue, Ottawa, Ontario K2A 1T1.



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World University Service of Canada, in association with the Canadian International Development Agency (CIDA), invites applications for positions at the National University of Lesotho in southern Africa.

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Hazards of reviewing

by Howard Adelman

G.R. Urban, *Hazards of Learning*, Open Court, La Salle, Illinois.

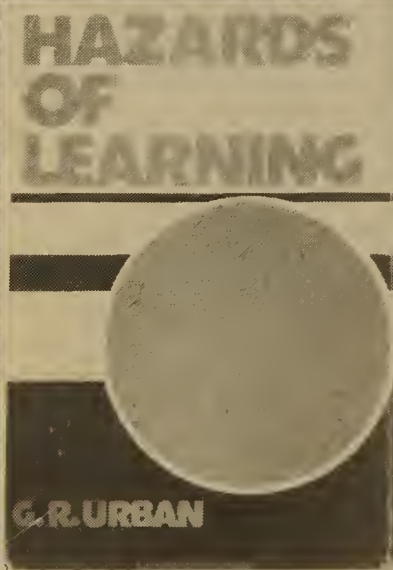
Hazards of Learning consists of thirteen edited conversations between George Urban, an ex-Hungarian expert on Eastern Europe who had adopted England as his home, and a variety of Western intellectuals from the U.S. and Western Europe holding quite diverse perspectives on the crisis of the university in the 1960's and its future prospects. Originally commissioned and broadcast by Radio Free Europe in 1973 and 1974, the discussions have been published by Open Court in 1977 as a symposium with an introduction by Seymour Martin Lipset.

The volume is not one I would have read if I had not been asked to review it. Radio conversations broadcast to a general public are not likely to encourage a systematic analysis of "the" crisis of the university. ("The" crisis referred to is the one of the late sixties and not the current demographic and financial one with all its ramifications.) There is no analysis. The speakers' conclusions about the causes of the crisis and some proposed solutions are there, but because the reasoning leading up to those conclusions is largely absent, the judgments frequently emerge in the form of arbitrary opinions and prejudices rather than as products of reflective and empirical analysis.

The particular use of the format by the interviewer does not help. For though it is referred to as a collection of thirteen dialogues, I was dismayed rather than delighted by the questioning which produced conversations and discussions but nothing I would call a dialogue, for there is no development of the speakers' views because of the exchange. There are opportunities to announce, highlight and elaborate one's opinions but most often they emerge as prejudices and not products of considered thought.

Radio interviews cannot afford to get "bogged down." But more probing of inconsistencies and demonstrably absurd assertions could have been tried more often and in greater depth. However, the interviewer would have had to be more sensitive to his own inconsistencies. For example, the interviewer confuses the study of techniques with the study of the ethos of technology so that Hersch, a Jaspers disciple who teaches philosophy in Switzerland, must explicitly assert that the place for learning techniques is *outside* the university and the place for studying technology (that is, its nature and ethos) is inside, in contradiction to the opposite view which Urban attributed to Jaspers—that the latter disapproved of the mushroom growth of technological institutes of higher education *outside* the university.

But the problem with the book is not



simply the format and the manner in which it is used. Urban depicts the hazard of learning as the encounter of fragmented pieces of knowledge without a Platonic unifying wisdom to transform the transmission of knowledge into an education. The greatest hazard of reviewing such a book is that the advocate of a synthetic unifying wisdom simply leaves the interviews with no apparent attempt to create a synthesis or to even order the conversations in any meaningful way. They are not even ordered in the way they were broadcast so that conversations are referred to in early discussions which do not appear until later in the book.

Seymour Lipset takes this fragmentation at face value and tries to give some order in the introduction by stressing the differences in perceptions on ideology, the causes of the student protests of the sixties and proposed solutions. Thus, he concludes, the book should be read as a document of the divisions in the academy and not as an effort at description and explanation. But if it simply documents division and diversity, then the idea of the university aspiring to achieve wisdom and some synthetic understanding is surrendered at the beginning. Thus, although I agree with Lipset that the volume is only useful as a document and not as an explanatory account, an attempt at weaving a synthesis through the diversity should have been tried given the editor's perspective.

Universities-bankruptcy of civilization

This could have been done, in part, by giving the book some systematic order. I, for one, would have juxtaposed Mick Farren's counter-cultural espousal of anarchism with Hersch's representation of Jasper's vision of the university as a Sanctuary of Truth updated to take account of technology. Farren paints a romantic surrealist nightmare in contrast to Hersch's vi-

sion of the university as a trustee of the whole heritage of our civilization, a repository of truth and humane values, rationality and law. Universities are not repositories of tradition; they are hothouses of revolution. They are not dedicated to truth but to an unreal world lending itself to playing imaginary revolutionary games. They represent the bankruptcy of civilization rather than its pinnacle. Universities must become communities of feeling as opposed to repositories of rationality concerned with survival in the face of ecological disaster inspired by visions to overcome the violation of meaning inherent in verbal communication.

This sick vision comes clearest in the black and white either/or logic which asserts that if we cannot have the perfect world of individual freedom from social control combined with a feeling community, "then it is as well to have the holocaust." If no perfection, then total destruction. There is no distinction between the repressive tolerance of liberal bourgeoisie society and the violent repressive intolerance of Hitler. Hersch diagnoses the roots of the madness. Adults have abrogated their moral responsibilities. Students, in the name of responsibility and independence, were really acting out given the lack of authentic paternal authority and the lack of authentic maternal love.

If Hersch diagnoses the individual psychology of the madness, Golo Mann, a Professor of Germany in both Germany and the U.S., diagnoses the ahistorical character of its social

psychology. In the retreat from history, students re-enact or act out different aspects of the revolutionary past. This is the real root of alienation and Mann explicitly connects his doctrine with Freud, with the individual who could not assimilate his past and is, therefore, compelled by the repetition of unconscious forces. The irony of course, is that the romantic rebels are calling for the same synthetic unity, the same rounded understanding and enjoyment as Hersch and Mann call for, but their bleat is that the failure of society in general and the university in particular to provide that unity proves the bankruptcy of the past; the only recourse is to a communion with nature rather than the cultural artifacts of civilization.

In contrast to the rationalist and romantic visionaries of truth and ultimate values with their various commitments to the university as a Sanctuary of Truth or of dreams, Lord James, in the first interview, regards such a view as "airy-fairy" because "only a small minority are capable of understanding and living up to Jasper's synthetic vision of the university." Lord James defends the Sanctuary of Method, the specialized professional university, which pays its sop to values in general by providing general education as an icing. His aim is specialized education, teaching students to be masters of one thing, but, at the same time, to teach them to *care* about truth. You no longer teach truth; you teach an attitude or sentiment towards it, for truth is equated

Sober perception, no-nonsense style

by Gordon Wood

Nicholas Wade, *The Ultimate Experiment*, Walker and Company, New York, N.Y.

What does recombinant DNA or gene splicing mean to you? For me, the recent synthesis of human insulin by bacteria in one of the laboratories that pioneered these DNA manipulations is a measure of its tremendous promise. Perhaps you are more concerned with the potential hazards and would like a review of the deliberations of the Cambridge, Massachusetts City council on some experiments being conducted at Harvard, or the arguments and decisions of the research workers in this field as they went from a moratorium to a set of guidelines, both self-imposed. Whatever your questions, they will be competently answered in this virtual play-by-play of the game from its beginning in 1973 through early 1977. Readers of *Science* will have already seen several articles by Nicholas Wade on this rapidly unfolding subject.

Brief introductory chapters establish the molecular biology context for gene splicing in a popular, but no-nonsense style. One statement is now outdated:

THE ULTIMATE EXPERIMENT

DNA

"... the technique may have long-term evolutionary consequences". As I understand it, there is now substantial evidence that gene-splicing occurs in nature and therefore is no doubt already making its contribution to

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C*ns*rsh*p: stopping the book banners

At least Royland knew he had been a true... were the web, post positive... There to be left and asked... different order. She would never... worked or not, or to what extent... knows. In a sense, it did not... thing—that mattered.



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Hazards of Reviewing

with knowledge not values. Thus, authorities are to be distrusted unless they are proven correct.

Urban is unable to relate intellectual scepticism to romantic disaffection, or to probe the contradiction between James' idea of education serving to free the mind from received ideas and false sentiments and James' own blatant received ideas, false assertions, and outright prejudices. With the false sentiments of the British scientific aristocrat, James asserts that in Britain the scientist is as likely to be a dissident as scholars from the humanities and social sciences. Urban knows this is incorrect as he demonstrates in his questions to others, but he doesn't challenge James.

British arrogance

The irony, of course, is that Lord James epitomizes the hazard of learning that Urban talks about — not the absurd conceptions James talks about: the hazard of learning which entails educating an individual beyond his capacity. Thus, James in a style which is decent and tolerant and kind, displays British arrogance in the absurd claim that his view of the hazard of educating people beyond their capacity is the source of the social discontent in the universities of France and Germany as well as the U.S.A.

Max Beloff at least wears his arrogance on his shoulder like a sergeant's stripes. He defends the Sanctuary of Method with the British retention of the Sanctuary of Truth's concerns with moral education in the form of an icing, but, in contrast to James, focuses on the structure of the institutions of higher education rather than the teaching content. Like Lord James, however, mass general education is shunted off to specialized institutions like The Open University. Max Beloff pictures the university as an ocean liner or an airplane with an authoritarian captain in charge, though there is no attempt to explain the connections between a university and a complicated technological vehicle of transportation facing natural hazards. The analogy is simply stupid, but Urban is gentle with Beloff. It is the Beloff's of the world with their il-

logical analogies in the name of rationality, who believe that "unless the child is watched all the time he may set the place on fire or flood it," who gives rise to the opposed simple sentiments of the romantics who adopt a faith in the ultimate goodness of man to fight one absurdity with another. It is the Max Beloff's who engage in the absolute assertions of tautological reasoning in the name of truth arguing that "good students—first rate students, unless psychologically disturbed, are never involved in student politics," explaining his conclusion by claiming that students who are involved in politics are undisciplined and hence, bad students and psychologically disturbed.

The irony is that the insufferable arrogance and amateur stupidity of these scientific specialists outside their fields, the very advocates of specialized education coated with an icing of general education, allows Lord James, with his British prejudices, to assert that alienation may be a source of discontent elsewhere, but not in Britain, but also frees these men from guilt. If dogmatic, they at least do not abrogate their adult responsibilities. If their attitudes help create the Farren's of the world, the rules they adopt repress the Farren's from acting out the opposing and more disruptive madness.

Fortunately, Lord Ashley is interviewed at the end to save the reader from the conclusion that British educational leaders are lovable idiots in the costume of decent sentimentalists or dogmatic apologists for the Sanctuary of Method and its offering of The Open University as a sop to the masses. Though his vision of the organization of the university does provide a more pragmatically conceptualized and phrased contrast with Beloff, the content he gives to education is very British. Like Beloff and James, he wants to combine scientific methodological education with general education in moral issues, the latter transmitted through the example of committed teachers.

But Ashley is a reformer as well. For he would attempt to unite the personal witness aspect of teaching values in the Sanctuary of Truth with the specialized education of the Sanctuary of

Method in a vision of the university as a Social Service Station dedicated to solving real social problems. In this context, courses in general education would be interdisciplinary and placed at the end rather than at the beginning of undergraduate education.

Richard Lowenthal, in his interview, is very perceptive in explaining why the German university problems have proven more intractable than in most other places. Though he uses a different terminology in referring to mass vocational training of universities as a demand for professional training and refers to the Sanctuary of Method dedicated to the production of specialized professionals as the German commitment to the university as a seat of scholarship, this different use of the word 'professional' in no way detracts from his perceptive view that the German authorities both failed to act when needed to adapt the Sanctuary of Method to a Social Service Station and, when they did act, they did so by abrogating their real responsibilities, opening universities to the control of Marxist ideologues committed to turning out professional agitators whose specialty is Marxist rhetoric. Since their arrogance was restricted to their own specialized fields rather than encompassing a view of their own inherent decency, as was the case with the British, the Germans, burdened with their peculiar guilt, were compelled to act out the mistakes of the past in their historical ignorant efforts to prevent such mistakes. Lowenthal calls it the loss of tradition and crisis of authority which characterizes post-war Germany. If Lowenthal seems to be reacting too strongly to the issues of student participation, in the German context it is understandable, though his own diagnosis is in part a symptom as well as an incisive analysis of the German situation.

View from the students' side

Alain Tourraine, provides a complement to Richard Lowenthal, not only because he provides insight into the French situation, but because he stood on the student side of the barricades at Nanterre. He too sees that the university in fact shifted from the education of an elite of professionals to the vocational training of masses of students, the majority of whom were destined to work in the corporate organizations of modern society. Since the universities were neither communities of values nor devoted primarily to specialized disinterested scholarship, the objectives of these new Social Service Stations were inconsistent with their structures and their underlying ideologies. This ideological conflict was placed in a crisis context since the abstract professional universe of the French system had not adapted.

When Faure introduced his reforms in France, it also occurred because the political leaders abrogated their responsibilities, not, however, because they were guilt-ridden but rather, in Tourraine's view, because they wanted to get rid of the problem and let the professors and students fight it out among themselves. Bureaucratic irresponsibility rather than irrational guilt seemed to be the motivating source in the French tradition which tries to get around problems by setting up new institutions. The result is that French higher education, which is organized around specialized schools and colleges rather than universities, is left untouched by the creation of anti-university universities. The German authorities, out of guilt, sowed a fifth column of saboteurs in their midst. The French authorities, out of bureaucratic self-defence of vested interests, shunted the problem sideways in a silent agreement to protect spheres of established interest.

Again, however, there is the irony. For in Tourraine's argument for the university as a centre of critique and his views that all attempts to transmit values are frauds, he undercuts the only basis on which a university can be a university, an intellectually uniting element in the life of the student. Thus, like Lowenthal, he provides a symptom of the peculiarly French blindness in addition to his perceptive insights into the problems.

In Canada, the comments of the Americans who either naively defend the university as a Social Service Station (Eldon Johnson and Alexander King), attack its excesses (Paul Seabury's concentrated fury against the extreme repercussions of affirmative action on the universities), or display its scholarly virtues in providing an historical overview and sociological insight into the crisis of the sixties, are more familiar. McKee shows, I think clearly, that the problem is more endemic to the nature of universities and the student body, though it may take different forms depending on the social context and, I

p. 18

Sober perception

evolution. Perhaps more importantly, this fact tones down somewhat the threat that science is about to unleash truly novel, and therefore unpredictable, processes on living things.

Included in the background to safety concerns in the scientific community is the juicy tidbit that James Watson is alleged to have "strong-armed" a younger colleague in an attempt to have him distribute freely a potentially dangerous hybrid virus. Although this item represents the "gut" (glandular?) school of popularization of science which strikes some people as too gossipy (remember the criticism of Watson's own book, *The Double Helix?*), this reviewer finds several points in its favor. Perhaps most important of these is that much of what transpires in the scientific community is conditioned by interactions of the participants at all levels. Scientists, like all humans, exhibit a multi-faceted mix of such contradictory qualities as altruism, egotism, dedication, opportunism, along with perhaps an extra propensity for Byzantine intrigues or street-fighting, depending on style.

The above detour was taken to emphasize what this book is not. The author has been known to create some fairly spicy pieces for *Science*, but somehow his style here seems to reflect a sober perception of the subject. In this mode of reporting, one would never mention that God played dice, even if there were firm suspicions to that effect.

In summary, if your taste runs to factual accounts of popularized science, this book does a creditable job on an important new area of study. If you feel you might prefer what a reviewer has described as "a much more vivid writing style", it may be advisable to substitute *Biohazard* by Michael Rogers (Knopf, New York, 1977). Comparative reviews of both books and one other appear in *Science*, vol. 198, 1977, p. 1144.

About our reviewers

Prof. Howard Adelman is with the Dept. of Philosophy at York University... Prof. Gordon Wood is with the Dept. of Chemistry at the University of Windsor.

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UNIVERSITY OF TORONTO. Faculty of Medicine. 1. Title: Head of the Division of Paediatric Oncology of The Hospital for Sick Children. Associate Professor - Department of Paediatrics. 2. **Qualifications:** Experience and training in Paediatrics, Paediatric Oncology and Clinical Research. Administration and experience should be commensurate with the rank of Associate Professor at the University of Toronto Faculty of Medicine. 3. **Nature of Duties:** Develop and coordinate an all embracing program in Paediatric Oncology for Metropolitan Toronto utilizing the facilities of The Hospital for Sick Children and the Princess Margaret Hospital which would include all the usual clinical and research practices within the Oncology Service in addition to responsibility for a teaching program for undergraduate and postgraduate students. 4. **Salary:** Commensurate with experience. 5. **Replies:** Resumes should be submitted to Mr. L. B. Murray, Chairman, Oncology Search Committee for the Department of Paediatrics, The Hospital for Sick Children, 555 University Avenue, Toronto, Ontario, Canada, M5G 1X8. 6. **Effective Date of Appointment:** July 1, 1979. 7. **Closing Date for Applications:** June 1, 1979.

UNIVERSITY OF GUELPH. College of Family and Consumer Studies. Dean. The College of Family and Consumer Studies is a college of interdisciplinary applied

sciences preparing students for professional and administrative careers in industry, government, and the human services. The College consists of the Department of Family Studies, the Department of Consumer Studies, and the School of Hotel and Food Administration. Two undergraduate degree programs are offered: the Bachelor of Applied Science, with majors in Child Studies, Consumer Studies, Family Studies, and Applied Human Nutrition and the Bachelor of Commerce with majors in Hotel and Food Administration and Institutional Food Service Management. The College has a complement of 54 full-time faculty from a broad range of disciplines. Student enrolment is currently 1250 undergraduate and 37 graduate students. Candidates with a broad perspective are sought from relevant disciplines to provide leadership in the continuing development of this multidisciplinary college. Candidates should qualify for the rank of professor and have had administrative experience. The appointment will commence January 1, 1980 or as soon as possible thereafter. Applications and inquiries will be accepted until May 15th or until position is filled and should be submitted to: Dr. H. C. Clark, Vice-President, Academic, University of Guelph, Guelph, Ontario, Canada. N1G 2W1.

MOUNT SAINT VINCENT UNIVERSITY. Office of the Academic Dean. Coordinator of Business Administration. 1. Rank open. 2. Doctorate preferred. 3. Administer department of 10 full time faculty with some undergraduate teaching. 4. Salary will be in accordance with qualifications and experience. 5. Inquiries should be addressed to: Dr. W. J. Shelton, Academic Dean, Mount St. Vincent University, Halifax, N.S. B3M 2J6. 6. Employment to commence July 1, 1979. 7. Applications accepted until position is filled.

MEMORIAL UNIVERSITY OF NEWFOUNDLAND. Department of Computer Science. Applications are invited for the position of Head of a newly created Department of Computer Science in the Faculty of Science to begin summer or fall 1979. Candidates should have demonstrated teaching and scholarly research abilities, indicative of senior rank, with a fairly broad background in computer science, and the capabilities of exercising academic and administrative leadership. A PhD in computer science or related area is required. The new Head would be responsible for developing future research programs, as well as directing and guiding a rapidly expanding undergraduate program and a relatively new graduate program. At present, there are 5 full-time faculty members, expected to expand to 8 by September 1979, supported by several part-time positions. The undergraduate enrollment is approximately 120 full-time majors. Salary is negotiable. Please send curriculum vitae and the names of three references to: Dr. P. J. Heald, Dean of Science, Chemistry-Physics Building, C-149, Memorial University of Newfoundland, A1B 3X7, Canada.

UNIVERSITY OF ALBERTA. Faculty of Engineering. Chairman, Department of Mineral Engineering. Applications are invited for the position of Chairman, Department of Mineral Engineering, the University of Alberta, Edmonton, Canada. The candidate must have a strong background in teaching and research applicable to one of the programs offered by the Department and, in addition, must possess outstanding qualities of leadership. The Faculty of Engineering consists of five Departments. The Department of Mineral Engineering offers programs in petroleum, mining, metallurgical and mineral engineering. There are twelve academic staff members and approximately the same number of nonacademic staff members. The undergraduate enrollment totals approximately 120 students in the three final years. The first year of the program is common to all Engineering Departments. Enrollment in the graduate programs (M.Sc., M.Eng. and PhD) is approximately thirty students. The Province of Alberta is the centre of many large developments in the natural resource area and the Department has excellent in-

dustrial contacts. The Chairman would be expected to provide leadership in the development of teaching and especially research programs in order to maintain and develop the industrial contacts established by the Department. Interested persons should apply to: Dr. P. F. Adams, Faculty of Engineering, 5-1 Mechanical Engineering Building, University of Alberta, Edmonton, Alberta, T6G 2G8.

UNIVERSITY OF ALBERTA. Faculty of Library Science. Invites the nomination of, or application from, candidates for the position of Dean, for a term commencing July 1, 1979. Both men and women are invited to apply. The position entails responsibility for the administration of a faculty of nine full-time members, plus sessional instructors. Enrollment encompasses some eighty (FTE) students, in a two-year Master

of Library Science program. The program was initiated in 1976 and accredited in January 1979 by the American Library Association. The Faculty of Library Science is seeking a Dean with professional experience as well as academic credentials and with demonstrated administrative ability. Written nominations, or applications, accompanied by a curriculum vitae, should be forwarded to: - Dr. M. Horowitz, Vice-President (Academic), The University of Alberta, Edmonton, Alberta T6G 2J9.

UNIVERSITÉ DE MONTRÉAL. Faculté de médecine. En conformité avec les statuts de l'Université de Montréal, le poste de directeur du département de physiologie sera ouvert le 1er juin 1979. Salaire en fonction du rang académique. Prime de direction. Bénéfices sociaux. Faire parvenir la demande accompagnée d'un curriculum vitae au docteur Florent Thibert, secrétaire de la Faculté de médecine de l'Université de Montréal, C.P. 6207, Succursale A, Montréal H3C 3T7, avant le 1er mai 1979.

CANADIAN ASSOCIATION FOR THE MENTALLY RETARDED. Executive Vice President. With the Canadian Association for the Mentally Retarded headquartered in Toronto, Canada. The chief staff position for the national voluntary association dedicated to the prevention of mental retardation and the improvement of the quality of life of mentally retarded persons. This senior executive position carries responsibility for a \$2 million budget and the direction of 40 staff. The E.V.P. is also responsible for liaison with local and provincial association branches, governments, and the general public, salary and terms negotiable. Send nominations or applications marked personal and confidential by May 1, 1979 to: Selection Committee, CAMR, Kinsmen NIMR Bldg., York U. Campus, 4700 Keele Street, Downview, Ontario M3J 1P3.

perience. Inquiries should be addressed to Co-ordinator of Business Administration, Mount Saint Vincent University, Halifax, Nova Scotia, B3M 2J6. Appointment to commence July 1, 1979. Applications open until position is filled.

SAINT MARY'S UNIVERSITY. Department of Accounting. Openings exist for Accounting professors particularly those interested in areas of auditing, information systems, managerial and financial accounting. A combination of professional and academic credentials is desired. Openings exist for both short term and permanent appointments commencing September 1, 1979 or September, 1980. Please send resume to: Dr. J. Chipman, Chairman, Department of Accounting, Saint Mary's University, Halifax, Nova Scotia B3H 3C3.

AGRICULTURE

McGILL UNIVERSITY. Faculty of Agriculture. Department of Animal Science. Applications are invited for the position of Assistant or Associate Professor in Swine Production, undergraduate and graduate courses in nutrition, developing a research program and directing graduate students as part of this program. The Department of Animal Sciences has nutrition programs in Swine, Cattle and Poultry and cooperates with the School of Food Science with respect to programs in Human Nutrition. Salary will be commensurate with experience; minimum: \$20,750. The position will be available July 1, 1979. Applicants must send a letter of application, curriculum vitae, transcripts and have two letters of reference sent, under separate cover, to: Dr. R. B. Buckland, Chairman, Search Committee, Department of Animal Science, Macdonald Campus of McGill University, Ste. Anne de Bellevue, Québec, H9X 1C0.

McGILL UNIVERSITY. Department of Agricultural Chemistry and Physics. Applications are invited for the position of Assistant Professor in the Department of Agricultural Chemistry and Physics, Macdonald Campus, McGill University, to teach Physical Chemistry and Food Analysis. Applicants should hold a doctoral degree. Preference will be given to applicants with a solid background in Physical Chemistry and with post-graduate training in the field of Agricultural Chemistry. The successful candidate will be expected to establish a research program, and to direct graduate students in Agricultural Chemistry and preferably in the area of food chemistry. The appointment can be made on July 1, 1979. Salary will be commensurate with training and experience. Applications, including curriculum vitae, official vitae, official transcripts, and the names of at least three referees should be sent before May 15, 1979, to Dr. M.A. Fanous, Chairman, Department of Agricultural Chemistry and Physics, Macdonald Campus, Ste. Anne de Bellevue, Québec, Canada H9X 1C0.

UNIVERSITY OF GUELPH. School of Agricultural Economics and Extension Education. Applications are invited for a one year, Visiting Professorship at the rank commensurate with the candidate's qualifications, starting September 1, 1979. Starting date and salary negotiable. PhD required with specialization in Resource and/or Regional Economics. Duties include teaching and research. Contact: E.L. Menzie, Director, School of Agricultural Economics and Extension Education, University of Guelph, Guelph, Ontario N1G 2W1. Position subject to final budgetary approval.

ANATOMY

QUEEN'S UNIVERSITY. Department of Anatomy. The Department of Anatomy at Queen's University, Faculty of Medicine, invites applications for a two-year term appointment as Assistant Professor, beginning July 1, 1979. Applicants should have a doctoral degree in Anatomy and a demonstrated competence in the teaching of gross anatomy and neuroanatomy to medical and allied health professional students. Applicants should also have a commitment to research in the morphological sciences, preferably in the field of neuroanatomy or teratology, and will be

The University of Alberta

FACULTY OF DENTISTRY

Fixed Prosthodontics

Applications are invited for a full-time teaching position in the Division of Fixed Prosthodontics. Candidates should have completed an accredited graduate or postgraduate certification programme and be eligible for licensure in the Province of Alberta.

Salary and rank are negotiable according to qualifications and experience. Intramural part-time practice in new facilities is available. Applications, accompanied by curriculum vitae, should be sent to:

Dr. W.J. Simpson
Professor and Chairman
Department of Dental Clinical Sciences
Faculty of Dentistry
University of Alberta
Edmonton, Alberta T6G 2N8 Canada

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ACCOUNTING

UNIVERSITY OF WATERLOO. Department of Economics. Accounting. 1. A few positions, rank open. 2. Doctorate in Hand or near completion. Excellence in teaching. Candidates who plan to pursue doctoral studies in the future will be considered. 3. Undergraduate level. Most areas of specialization. 4. Competitive depending upon education and experience. 5. Professor Robert Long, Director of Accounting Programmes, Department of Economics, University of Waterloo, Waterloo, Ontario, N2L 3G1. 6. September 1, 1979 or by arrangement. 7. When filled. (First consideration will be given to those applicants who at the time of application are legally eligible to work in Canada for the period covered by these positions. Availability of these positions is subject to budgetary approval).

McMASTER UNIVERSITY. Faculty of Business. Academic Vacancy. 1. Positions in accounting. Rank open. 2. PhD. completed or near completion. 3. Teach and do research in accounting. Areas to be covered: Managerial, Systems, and Financial. 4. Salary appropriate for qualifications. 5. W.J. Schlatter, Chairman of Accounting, Faculty of Business, McMaster University, Hamilton, Ontario, L8S 4M4. 6. July 1, 1979. 7. When positions filled.

DALHOUSIE UNIVERSITY. School of Business Administration. Appointment of Accounting for September, 1979. Applications are invited from those interested in teaching financial and/or managerial accounting at the undergraduate and graduate (MBA) level. Candidates with PhD or PhD in progress (A.B.D.) preferred. Teaching and strong research interest desired. Rank of appointment will be at the assistant/associate professor level and salary will depend on the candidate's qualifications. Applicants with masters and professional qualification will be considered for 2 year contractual appointment. Please forward resumes to John R.E. Parker, School of Business Administration, Dalhousie University, Halifax, Nova Scotia, Canada, B3H 4H8.

MOUNT SAINT VINCENT UNIVERSITY. Business (Administration) Department. The successful candidate will be responsible for teaching undergraduate Accounting courses. Qualifications: CA (or other recognized accounting credential). MBA or relevant experience is highly desirable. Rank and salary will be in accordance with qualifications and ex-

expected to participate in the graduate teaching program of the Department. Qualified applicants are invited to submit a curriculum vitae, list of publications, names of three referees and a covering letter describing teaching and research experience and interests to: Dr. W.J. Forrest, Department of Anatomy, Queen's University, Kingston, Ontario, K7L 3N6.

ANIMAL SCIENCE

UNIVERSITY OF GUELPH. Department of Animal and Poultry Science. Applications are invited for the position of Assistant Professor, probationary appointment. Required is a qualified Biometrician with a background in Agricultural Science who is presently engaged in working with agricultural scientists. Responsible for consulting with faculty and graduate students on experimental design, analysis of data and interpretation of data. Also, there will be opportunities to develop methods of analysis and statistical methods. The person will be domiciled in the Mathematics and Statistics Department. The consultations will take place both off and on the campus. The successful candidate would also be expected to teach two courses in applied statistics offered by the Department of Mathematics and Statistics, and do research. Salary commensurate with qualifications and experience. Direct replies to: W.D. Morrison, Chairman Department of Animal and Poultry Science, Ontario Agricultural College, University of Guelph, Guelph, Ontario, N1G 2W1. Duties to commence on September 1, 1979. Closing date for applications May 1, 1979 or until position is filled. Position subject to final budgetary approval.

UNIVERSITY OF BRITISH COLUMBIA. Department of Animal Science. Applications are invited for the position of Assistant Professor in the Department of Animal Science, University of British Columbia. Candidates must hold the Ph.D. degree, and be eligible for membership in the British Columbia Institute of Agrobiologists. Post-graduate training and experience in the area of beef cow nutrition is essential. Background in the animal aspects of range management, and in systems modelling, would be highly desirable. The successful candidate will be expected to participate in the teaching of undergraduate and graduate courses, and to undertake research in the beef cattle producing areas of British Columbia. The appointment will be effective July 1, 1979. Applications, including curriculum vitae, and the names of three referees should be sent to: Dr. B. D. Owen, Chairman, Department of Animal Science, Faculty of Agricultural Sciences, The University of British Columbia, 2075 Wesbrook Mall, Vancouver, British Columbia, V6T 1W5. The University of British Columbia offers equal opportunity for employment to qualified male and female candidates.

ARCHEOLOGY

UNIVERSITY OF TORONTO, ERINDALE COLLEGE. Department of Anthropology. Applications are invited for an archaeologist. This is a two-year appointment with renewal dependent upon budgetary considerations. Ph.D. preferred. Duties to include the teaching of North American Archaeology, Old World Prehistory and Laboratory Methods. Future duties may require organization of a field course and teaching Introductory Anthropology. Beginning salary with Ph.D. \$16,500 plus fringe benefits. Successful candidates must have broad field experience involving supervisory responsibility. Closing date for applications is April 30, 1979. Applications with curriculum vitae, three letters of reference, and samples of publications should be sent to Dr. Maxime Kleindienst, Chairman, Department of Anthropology, University of Toronto, Toronto, Ontario, M5S 1A1.

ARCHITECTURE

UNIVERSITY OF TORONTO. School of Architecture. Fall Semester 1979. Full-time position as Assistant Professor; contractually limited term appointment; to develop and teach history and theory component in five-year undergraduate program and participate in architectural design studio. Breadth of interest and background essential. Salary from \$16,500 depending on qualifications. B. Arch. or M. Arch.; M.A. or Ph.D. in Architectural History/Theory; previous teaching experience. Apply, including curriculum vitae, statement of interest and two letters of recommendation by May 1st, 1979 to Professor Blanche Lemco van Ginkel, Director, 230 College Street, Toronto, Ontario, M5S 1A1.

NOVA SCOTIA TECHNICAL COLLEGE. Faculty of Architecture. This university faculty of architecture, which presently comprises a School of Architecture and Department of Urban and Rural Planning, totaling about 200 students, seeks applications to teach the use of computers in architecture and to contribute to design and other courses. Relevant professional or research experience and post-professional higher degree mandatory. Appointment at Associate or Assistant Professor levels (salary minima about \$25,000 and \$20,000 respectively). Canadian citizens, landed immigrants or holders of valid work permits from the Employment and Immigration Commission will be given preference. Resume with names and addresses of three referees to: Dr. Peter Manning, Dean, Faculty of Architecture, Nova Scotia Technical College, P.O. Box 1000, Halifax, N.S., Canada, B3J 2X4.

MCGILL UNIVERSITY. School of Architecture. 1. One position at either the Assistant, Professor or Associate Professor level. 2. Advanced degree (research M. Arch) and/or related teaching experience. 3. Teaching design and construction. 4. Salary and rank commensurate with qualifications. 5. Reply to Professor Derek Drummond, School of Architecture, McGill University, 3480 University Street, Montreal, Quebec, H3A 2A7. 6. September 1st, 1979. 7. April 30th, or when position is filled.

ART

THE NOVA SCOTIA COLLEGE OF ART AND DESIGN. Foundation Division. Assistant or Associate Professor of Art to teach first-year students in foundation program including courses in drawing and colour, form and texture. Desirable qualifications include M.F.A. degree or equivalent and, teaching experience at university-level and record of production and exhibition of art work. Position begins July 1, 1979. Write, with slides, curriculum vitae and references, to David Zeiset, Chairman, Foundation Division, Nova Scotia College of Art and Design, 5163 Duke Street, Halifax, Nova Scotia B3J 3J6.

UNIVERSITY OF SASKATCHEWAN. Department of Art. The University of Saskatchewan invites applications for a one-year only position at the rank of Assistant Professor. The candidate must be willing to teach three of the following courses: Ancient Greek and Roman Art, Art in Spain from the Sixteenth to the Eighteenth Century, Late Medieval Art, Twentieth Century Art. A candidate with a Ph.D. is preferred. The minimum salary will be approximately \$18,000. Applications will be received until position is filled for an appointment effective July 1, 1979. Write to Professor S.E. Day, Head, Department of Art, University of Saskatchewan, Saskatoon, Saskatchewan, Canada, S7N 0W0. N.B. The position is subject to budgetary confirmation.

BIOLOGY

UNIVERSITY OF NEW BRUNSWICK. Department of Biology. Assistant Professor starting July 1, 1979. Ph.D. and/or Post-Doctoral experience. With primary responsibility to teach introductory genetics and in some area of botany consistent with the programme in the Department; to conduct research. Subject to budgetary approval. Applications close May 31st and should be addressed to Dr. J. McKenzie, Acting Chairman, Department of Biology, University of New Brunswick, Fredericton, N.B. E3B 5A3.

CONCORDIA UNIVERSITY. Department of Biology. Applications are invited for a leave replacement position at the rank of Assistant Professor in Aquatic Ecology (Invertebrate Population). Candidate must have the Ph.D. degree and relevant research or teaching experience. The successful candidate will be expected to teach undergraduate courses in Ecology, Field Ecology, Limnology and Population Ecology and participate in the research programme in Ecology. The salary floor for Assistant Professor is currently \$20,800. Applicants should send a recent curriculum vitae and the names of three referees to Dr. R.M. Roy, Chairman, Department of Biology, Concordia University, 1455 de Maisonneuve Blvd. W., Montreal H3G 1M8.

CONCORDIA UNIVERSITY. Department of Biology. Applications are invited for a tenure stream position at the rank of Assistant Professor in Cell and Molecular Microbiology. Candidate must have the Ph.D. degree and relevant teaching experience. The successful candidate will be expected to establish an independent research programme and teach at the graduate and undergraduate level in Microbiology, Microbial Physiology and/or Cell Physiology. Salary commensurate with qualifications and experience. (Current salary floor for Assistant Professor, \$20,800). Applicants should send a recent curriculum vitae and the names of three referees to Dr. R.M. Roy, Chairman, Department of Biology, Concordia University, 1455 de Maisonneuve Blvd. W. Montreal H3G 1M8.

UNIVERSITY OF WINDSOR. Department of Biology. Available spring 1979 for candidate with experience in the areas of STEROID HORMONE RECEPTORS and/or CHEMICAL CARCINOGENESIS, especially with polycyclic aromatic hydrocarbons. Candidates with relevant experience in drug metabolism or biochemistry also will be considered. Starting salary: \$12,000, two-year appointment. Send curriculum vitae and names of two referees to: Dr. Allan B. Okey, Department of Biology, University of Windsor, Windsor, Ontario, N9B 3P4, or call (519) 253-4232 ext. 445 for further information.

UNIVERSITY OF ALBERTA. Department of Zoology. The Department will make two tenurable appointments at the rank of Assistant Professor (minimum \$18,530.00 p.a., 1978-1979 scale) on July 1st, 1979, and one continuous but non-tenurable academic position of Faculty Service Officer (FSO) 1 (minimum of \$14,498.00 p.a., 1978-1979 scale) on August 1st, 1979. The Department has well-developed Honors, Specialization, and Graduate programs, and at present has 29 academic staff, 75 graduate students, and 27 support staff. Applicants for the Assistant Professor positions must have a Ph.D. degree or equivalent and should send a curriculum vitae, a brief statement of research objectives, a list of publications, and the names of three referees to Dr. F. S. Chia, Chairman, Department of Zoology, University of Alberta, Edmonton, Alberta, Canada, T6G 2E9. Applicants for the FSO position must have an M.Sc. degree in Biology or equivalent and some experience in the organization or teaching of introductory university biology courses and should send a curriculum vitae and the names of three referees to F.S. Chia. The deadline for receiving applications is May 1st, 1979. The University of Alberta is an equal opportunity employer. 1) Limnologist: Applicants with research interests in experimental and quantitative limnology of lakes are preferred. The person appointed is expected to share in the teaching of limnology and quantitative ecology and to establish a strong research program. 2) Marine Invertebrate Zoologist: Individuals with research interests in any aspect of biology of marine invertebrates are invited to apply but preference is given to applicants who work with molluscs or annelids. The person appointed is expected to share in the teaching of invertebrate zoology and marine biology and to establish a strong research program. 3) Faculty Service Officer: The primary responsibility of this position is to supervise and coordinate the Introductory Biology Program, a program consisting of six introductory biology courses and one remedial biology course, overseen by four departments in the biological sciences (Botany, Genetics, Microbiology, and Zoology). This individual will assist and collaborate with academic staff and

laboratory teaching assistants in preparing and conducting the introductory biology courses, particularly the laboratories. The position also involves administrative and supervisory duties in the Introductory Biology Program office.

UNIVERSITY OF GUELPH. Department of Zoology. The Department of Zoology at the University of Guelph offers three faculty positions which will be either tenure tract probationary appointments or one year renewable contracts. All positions are subject to final budgetary approval. Candidates will be expected to teach and conduct research in the areas of quantitative ecology, reproduction biology or invertebrate zoology. Applicants with post-doctoral research experience are preferred. Rank for all positions is at the level of Assistant Professor. Applications must include a curriculum vitae and names of two referees, and be sent to: The Chairman, Department of Zoology, College of Biological Science, University of Guelph, Guelph, Ontario N1G 2W1, Canada.

BIO-PHYSICAL EDUCATION

CONCORDIA UNIVERSITY. Department of Bio-Physical Education. Faculty required to teach in the undergraduate program with expertise in one of the following areas: 1. Anatomy / Kinesiology, 2. Cardiovascular Physiology, 3. Motor Learning / Neurophysiology. Two positions are open at the Assistant or Associate Professor level. Salaries are based on teaching experience and research productivity. The Department of Bio-Physical Education is a three year degree program leading to a B.Sc. Degree. The curriculum emphasizes study in the natural and applied biological sciences related to physical activity and sport. A Masters Program in the planning stage. Candidates will be assured numerous opportunities to pursue individual research. Qualifications: 1. Doctorate Degree, 2. Teaching Experience, 3. Published Research. Positions available June 1, 1979. Please forward a letter of application and curriculum vitae to: Dr. William R. Sellers, Department of Bio-Physical Education, Concordia University, 7141 Sherbrooke St. W., Montréal, Québec H4B 1R6.

BUILDING STUDIES

CONCORDIA UNIVERSITY. Centre for Building Studies. Applications are invited for an Assistant or Associate Professorship in Building Science/Environment. Ph.D. or equivalent in related engineering discipline. Industrial experience and/or proven research record are assets. Duties will include undergraduate and graduate teaching, research in building engineering, and participation in other activities of the Centre. Salary commensurate with qualifications. Forward curriculum vitae and three references to Dr. P. Fazio, Director, Centre for Building Studies, Concordia University, 1455 de Maisonneuve Blvd. West, Montreal, Canada, H3G 1M8.

BUSINESS ADMINISTRATION AND COMMERCE

LAURENTIAN UNIVERSITY. Business Administration and Commerce. The School of Commerce and Administration has positions available in Accounting, Finance, Quantitative Methods and Marketing. A Ph.D. is desired but not essential. Rank and salary will be based upon qualifications and experience. Preference will be given to bilingual candidates. Duties will commence January 1, 1979 or July 1, 1979 and will include the teaching of courses at the undergraduate and Graduate Diploma Level. Letters of application should be sent to: Professor D.J. Hildrup, Director, School of Commerce and Administration, Laurentian University, Sudbury, Ontario P3E 2C6.

UNIVERSITY OF WINDSOR. Faculty of Business Administration. Applications are invited for two tenure track positions at the assistant or associate level beginning in July or September 1979. A completed Ph.D. is required for the associate level, while near completion will be considered for the assistant position. Interested candidates will be

expected to teach in at least one of the areas of marketing research, physical distribution, channels of distribution, or sales management. Salary is highly competitive and is dependent on qualifications. Interested candidates should send resume to Dr. A. J. Faria, Chairman of Marketing, Faculty of Business Administration, University of Windsor, Windsor, Ontario, Canada N9B 3P4. The Faculty of Business offers the B.A. and M.B.A. degrees and has nearly 1,500 students.

QUEEN'S UNIVERSITY. School of Business. Assistant or Associate Professor(s). Positions open for term appointments for applicants holding Ph.D. Teaching and research duties in any of the principal fields of Accounting and Information Systems, Organizational Behaviour and Industrial Relations, Production and Operations Management, Business Policy, and Marketing. Competitive salary levels depending on experience. Send resume to Dean J.R.M. Gordon, School of Business, Queen's University, Kingston, Ontario, K7L 3N6.

THE UNIVERSITY OF ALBERTA. Faculty of Business Administration and Commerce. Applications are invited for faculty position in Personnel. Ph.D. or equivalent is desirable. Both men and women are invited to apply. Salary and rank depend on qualifications. Applications welcome until position is filled. Appointments normally effective July 1. Send resume to: Dr. Roger S. Smith, Dean, Faculty of Business Administration and Commerce, University of Alberta, Edmonton, Alberta, T6G 2G1.

WILFRID LAURIER UNIVERSITY. School of Business and Economics. Applications are invited for teaching positions in the areas of ACCOUNTING, BUSINESS POLICY and QUANTITATIVE METHODS / COMPUTER SCIENCE. Qualifications: M.B.A. minimum for lecturers; Ph.D. for up to Associate Professor. Duties include graduate or undergraduate teaching. Applications will be accepted until positions are filled, and are subject to budget approval. Please send applications to: Dr. T.F. Cawsey, Associate Dean of Business, School of Business and Economics, Wilfrid Laurier University, Waterloo, Ontario, Canada, N2L 3C5.

CARLETON UNIVERSITY. School of Commerce. Applications are invited for Assistant / Associate rank in the following areas of interest: (i) Finance and (ii) Systems Analysis / Data Processing. Preference will be given to candidates with a secondary teaching interest in Quantitative Methods or Business Policy. Appointment effective July 1, 1979. Qualifications required. Ph.D. (Appointments may be considered in exceptional circumstances for individuals who wish to consider academic experience before embarking on a Ph.D. program.) Applications should be sent to Dr. W. M. Lawson, Chairman, Recruiting Committee, School of Commerce, Carleton University, Ottawa, Ontario, K1S 5B6.

MOUNT SAINT VINCENT UNIVERSITY. Business Administration and Public Relations. The successful candidate will be responsible for teaching undergraduate courses in Public Relations and developing and teaching in-service courses. Qualifications: PhD in Public Relations or allied field with relevant experience preferred. Rank and salary will be in accordance with qualifications and experience. Inquiries should be addressed to Co-ordinator of Business Administration and Public Relations, Mount Saint Vincent University, Halifax, Nova Scotia, B3M 2J6. Appointment to commence July 1, 1979. Applications open until position is filled.

MOUNT SAINT VINCENT UNIVERSITY. Business Administration. 1. Rank open (position depending on qualifications). 2. PhD or MBA. 3. Teaching undergraduate Marketing courses. 4. Salary will be in accordance with qualifications and experience. 5. Inquiries should be addressed to: Co-ordinator Business Administration, Mount Saint Vincent University, Halifax, Nova Scotia, B3M 2J6. 6. Employment to commence July 1, 1979. 7. When position is filled.

UNIVERSITY OF NEW BRUNSWICK. Division of Administration, Saint John Campus. Applications are invited for the following three positions; a tenurable position in Financial Accounting at the Associate or Assistant level; a sabbatical

leave replacement in the Management field at the Assistant level. Duties of these positions include undergraduate teaching and research. Preference will be given to candidates with a Ph.D. or Ph.D. in progress. Minimum qualifications for the tenurable position would include an M.B.A. and a professional accounting designation. Rank and salary will be based on the candidate's applications and experience. Appointment effective July 1st, 1979. Applications will be accepted until the positions are filled. Please address applications to the Chairman, Division of Administration, University of New Brunswick, Saint John, N.B., P.O. Box 5050, E2L 4L5.

UNIVERSITY OF ALBERTA. Faculty of Business Administration and Commerce. Applications are invited for faculty positions from those with teaching and research interests in: business policy (2), marketing, finance (especially financial theory, corporate finance, or insurance), management science, accounting and personnel. Ph.D. or equivalent is desirable. Salary and rank depend on qualifications. Applications welcome until positions are filled. Appointments normally effective July 1. Send resume to: Dr. Roger S. Smith, Dean, Faculty of Business Administration and Commerce, University of Alberta, Edmonton, Alberta, T6G 2G1. The University of Alberta is an equal opportunity employer.

UNIVERSITÉ D'OTTAWA. Département d'Administration des affaires. Faculté d'Administration. Nous offrons des postes d'enseignement et de recherche à plein temps dans les domaines suivants: Comptabilité, Finance, Gestion des Ressources Humaines, Marketing, et Gestion. Les candidats doivent posséder un Ph.D. ou l'équivalent et être de préférence bilingues (Français et Anglais). Rémunération et rang académique selon qualifications et expérience. Les engagements se feront pour le 1er juillet 1979. Envoyer demandes et curriculum vitae à: Hodgson Morrissey, Directeur, Département d'Administration des affaires, Faculté d'Administration, Université d'Ottawa, Ottawa, Ontario, K1N 9B5.

UNIVERSITY OF OTTAWA. Department of Business Administration. Faculty of Administration. Applications are invited for full-time teaching and research positions in the following areas: Accounting, Finance, Human Resources Management, Marketing, Management. Candidates should possess a Ph.D. or equivalent. Bilingualism (English and French) would be an asset. Remuneration and Academic rank will be commensurate with qualifications and experience. Effective date of appointment: July 1, 1979. Please direct enquiries and curriculum vitae to: Hodgson Morrissey, Chairman, Department of Business Administration, Faculty of Administration, University of Ottawa, Ottawa, Ontario, K1N 9B5.

McMASTER UNIVERSITY. Faculty of Business. Business Administration. Applications are invited for either a faculty or a visiting position in MANAGEMENT INFORMATION SYSTEMS. Candidates should have the doctorate completed and, preferably, should also have some teaching and research experience. The successful candidate will be expected to make a strong contribution to research and to the Ph.D. program in management information systems. Duties will also include B. Comm. and/or M.B.A. teaching. Salary and rank based on qualifications and experience. Inquiries should be addressed to: Dr. George W. Torrance, Chairman, Production and Management Science Area, Faculty of Business, McMaster University, Hamilton, Ontario, L8S 3M4.

McMASTER UNIVERSITY. Faculty of Business. Faculty position in the Personnel and Industrial Relations Area commencing July 1, 1979. The successful candidate will be expected to make a strong contribution to research in Industrial Relations and to teach graduate and undergraduate courses in Industrial Relations. A capacity to teach personnel management and organizational behaviour would also be useful. Prefer assistant but may be able to make appointment at higher rank. Send curriculum vitae to: Dr. Ian Meadows, Chairman, Personnel and Industrial Relations Area, Faculty of Business, McMaster University, Hamilton, Ontario L8S 4M4.

McMASTER UNIVERSITY. Faculty of Business. Academic Vacancy. Policy Area. A position at the Assistant or Associate level. Quantitative background, experience

in business gaming, research and executive development are required. Ph.D. required. Salary is competitive. Write to: Dr. Robert C. Joyner, Faculty of Business, McMaster University, Hamilton, Ontario L8S 4M4.

ST. FRANCIS XAVIER UNIVERSITY. Department of Business Administration. Applications are invited for several faculty positions. Duties involve undergraduate teaching and research. Ph.D. preferred but M.B.A. and relevant experience will be considered. Rank and salary dependent on qualifications. Teaching areas include Accounting, Finance, Business Policy, Industrial Relations and General Management and preference will be given to candidates with a competence in more than one area. Appointments will be effective August 1, 1979. Applications should be sent to: L. T. Gallant, Chairman, Department of Business Administration, St. Francis Xavier University, Antigonish, Nova Scotia, B2G 1C0.

McMASTER UNIVERSITY. Faculty of Business. Applications are invited for a position in production and/or management science. Candidates should have the doctorate completed and, preferably, should also have some teaching and research experience. Duties include undergraduate and graduate teaching and research. Salary and rank based on qualifications and experience. Inquiries should be addressed to: Dr. G.W. Torrance, Chairman, Production and Management Science Area, McMaster University, Hamilton, Ontario L8S 4M4.

UNIVERSITY OF NEW BRUNSWICK. Division of Administration, Saint John Campus. Applications are invited for the following three positions; a tenurable position in Financial Accounting at the Associate or Assistant level; a sabbatical leave replacement in the Management field at the Assistant level. Duties of these positions include undergraduate teaching and research. Preference will be given to candidates with a Ph.D. or Ph.D. in progress. Minimum qualifications for the tenurable position would include an M.B.A. and a professional accounting designation. Rank and salary will be based on the candidate's qualifications and experience. Appointment effective July 1st, 1979. Applications will be accepted until the positions are filled. Please address applications to the Chairman, Division of Administration, University of New Brunswick, Saint John, N.B., P.O. Box 5050, E2L 4L5.

ROYAL MILITARY COLLEGE OF CANADA. Department of Political and Economic Science expects to make a regular appointment in commerce. Rank open. Ph.D. or near completion with concentration in finance. M.B.A. will be seriously considered. Undergraduate teaching in accounting and management studies in French. Salary commensurate with qualifications and experience. Dr. P. Bussi res, Assistant to the Principal, Royal Military College of Canada, Kingston, Ontario, K7L 2W3. 1 July 1979. When filled.

ROYAL MILITARY COLLEGE OF CANADA. D partement de sciences  conomiques et politiques. Le d partement de sciences  conomiques et politiques offre un poste en commerce. Le grade d pendra des qualifications et de l'exp rience. Le doctorat avec sp cialisation en finance est pr f r . Les candidats d tenant un MBA seront s rieusement consid r s. Enseigner en fran ais au premier cycle des cours de comptabilit  et de gestion. La connaissance des deux langues officielles est requise. Le salaire d pendra des qualifications et de l'exp rience. Faire parvenir son curriculum vitae au Dr. Pierre Bussi res, Assistant au principal, Royal Military College of Canada, Kingston, Ontario, K7L 2W3. Date de nomination: 1er juillet 1979. Ouvert.

UNIVERSITY OF WATERLOO. Department of Economics. Business Administration and Commerce. Applications are invited for several faculty positions from those with teaching and research interests in accounting or finance. Doctorate in hand or near completion is preferred but candidates who plan to pursue doctoral studies in the future will be considered. Teaching excellence is required; research potential is desirable. Ranks open and salaries competitive depending upon education and experience. Appointments will be from September 1, 1979 but other dates can be arranged due to the flexibility provided by our year round co-op programmes. Applications or inquiries, including curriculum vitae, should be sent to Professor Robert Long, Director of Accounting Pro-

grammes, Department of Economics, University of Waterloo, Waterloo, Ontario, N2L 3G1. (First consideration will be given to those applicants who at the time of application are legally eligible to work in Canada for the period covered by these positions. Availability of these positions is subject to budgetary approval.)

McMASTER UNIVERSITY. Faculty of Business. Academic Vacancy. Marketing Area. 1. Assistant or Associate Professor level. 2. Doctorate or dissertation in progress. 3. Research and teaching at the graduate and undergraduate levels with primary interest in distribution, including management or physical distribution and channel management. Industry experience in distribution would be desirable. 4. Open. 5. Dr. Peter Banting, Chairman, Marketing Area, Faculty of Business, McMaster University, Hamilton, Ontario, L8S 4M4. 6. July 1, 1979. 7. When filled.

BUSINESS MATHEMATICS

UNIVERSITY OF MANITOBA. Department of Actuarial and Business Mathematics. Applications are invited for a permanent senior position; however, an interim Visiting Professorship may be considered. Doctorate or evidence of well established publication record is required; experience in business or industry highly desirable. Duties: undergraduate and graduate teaching and research. Applicants should be able to teach advanced O.R. subjects, e.g. decision theory, queuing theory, forecasting and mathematical control models, and to supervise graduate and undergraduate student projects in industry and business. Salary and rank commensurate with qualifications and experience. Applications, including a curriculum vitae and names of three references, should be sent to H. J. Boom, Acting Head, Department of Actuarial and Business Mathematics, University of Manitoba, Winnipeg, Manitoba, R3T 2N2.

CHEMISTRY

UNIVERSITY OF VICTORIA. Department of Chemistry. Graduate Studies in Chemistry: All students accepted will receive financial support ranging from a minimum \$6,600 up to a maximum of \$9,800 (with only half the normal demonstrating duties), for highly qualified students. The Department has excellent facilities for research. A brochure describing the department and faculty research interests is available upon request. Enquiries about Co-operative Graduate Degree Program, in collaboration with Canadian Industries, are invited. Postdoctoral Research: A number of postdoctoral / research associate positions are available. In particular applications are invited for: Photochemistry of Inorganic Complexes, A.D. Kirk; Organometallic and Coordination Chemistry of Transition Metals, K.R. Dixon; Fluxional molecules; asymmetric catalysis by transition metals, S. R. Stobart. Postdoctoral positions are tenable initially for one year, renewable, at rates up to the maximum allowed by the NSERC grant regulations. Applications should be directed to: Dr. A. D. Kirk, Chairman, Department of Chemistry, University of Victoria, P.O. Box 1700, Victoria, B.C., V8W 2Y2.

UNIVERSITY OF TORONTO. Department of Chemistry. Applications are invited from qualified candidates for one year appointments as Postdoctoral Research Fellows in the following fields: Bioorganic and bioinorganic chemistry, including enzyme catalysis, properties of biological membranes, microbe studies, biopolymers. Structural and synthetic organic chemistry, natural products, organometallic chemistry. Physical organic chemistry, including fast reactions in solutions, carbonium ion and free radical chemistry. Polymer chemistry, synthesis and photochemistry. Analytical chemistry, and applications to environmental problems. Inorganic chemistry, synthesis, structure and reaction mechanisms, catalysis. Quantum chemistry; computer simulation of synthetic pathways. Photochemistry, organic

and inorganic. Surface chemistry via ellipsometry and resonance raman studies, matrix isolation spectroscopy. Reaction dynamics and molecular energy transfer studies with chemical lasers, molecular beams, shock tubes, dye laser spectroscopy, mass spectrometry. Theoretical studies on reaction dynamics and ergodicity. Picosecond laser spectroscopy and photophysics. Non-linear laser spectroscopy, coherence phenomena. NMR studies of molecular motion and structure. X-ray diffraction studies. Statistical mechanics of dense fluids, polymer chains, phase transitions, structure of liquids, chemical kinetics. Stipend for the first year will be \$11,000 minimum (depending on qualifications and experience), with the possibility of a one year renewal. Send curriculum vitae, transcripts and letters from three referees to the undersigned, from whom further particulars may be obtained. Professor K. Yates, Chairman, Department of Chemistry, University of Toronto, Toronto, Ontario, M5S 1A1, Canada.

UNIVERSITY OF VICTORIA. Department of Chemistry. Applications are invited for: i) a tenure-track position at the assistant professor level. Applications from all highly qualified candidates will be considered, but a preference exists for candidates with research and teaching interests in the areas of organic and/or analytical chemistry. ii) an eight month sessional or visiting appointment at the level of assistant professor, field open. Applications consisting of a curriculum vitae, including a list of publications and the names and addresses of three referees should be sent to the undersigned prior to April 30, 1979. Applicants should specify whether they wish to be considered for a particular or both positions. Dr. A. D. Kirk, Chairman, Department of Chemistry, University of Victoria, P. O. Box 1700, Victoria, B.C., V8W 2Y2.

CARLETON UNIVERSITY. Department of Chemistry. Post-Doctoral and Research Associate (Part-time) positions available in Theoretical and experimental areas in Solid State Laser Spectroscopy. Candidates should have some experience in working with cw or pulsed dye laser systems (PDF) and have a chemical physics background (RA). Contact J. A. Koningstein, Department of Chemistry, Carleton University, Ottawa, Ontario, Canada, K1S 5B6. Telephone: 613-231-5694.

UNIVERSITY OF NEW BRUNSWICK. Department of Chemistry. Invites applications for the position of Instructor, available July 1, 1979. The position, which is subject to budgetary approval, could lead to that of Senior Instructor, a permanent "tenure type" appointment. The present salary range is: Instructor (\$11,312 - 14,525), Senior Instructor (\$13,990 to 20,276). Duties involve running a second year analytical techniques laboratory course and third and fourth year level Inorganic Chemistry courses as time permits. Applicants should have a background that includes a substantial analytical chemistry component, preferably at the post B.Sc. level. It is hoped that the successful applicant will also assist in providing some analytical services within the department. Applications, which should include a curriculum vitae and the names of three referees, should be sent by May 1, 1979 to: Dr. Friedrich Grein, Chairman, Department of Chemistry, University of New Brunswick, P.O. Box 4400, Fredericton, N.B. E3B 5A3.

UNIVERSITY OF TORONTO, ST. GEORGE CAMPUS. Department of Chemistry. Research positions at the Postdoctoral and Research Associate levels, available for studies on the interaction of small molecules with single crystal metal surfaces using LEED, AES, thermal desorption, and vibrational spectroscopy. Salary commensurate with experience. Applications with curriculum vitae and the names and addresses of three references should be sent as soon as possible to: Professor M. J. Dignam, Department of Chemistry, University of Toronto, Toronto, Ontario, M5S 1A1, Canada.

UNIVERSITY OF TORONTO. Department of Chemistry. Teaching Postdoctoral Fellowship. Available Summer 1979. Research in Silicon Fluoride Chemistry, particular emphasis on NMR. Teaching in

General Chemistry. Stipend: \$10,800 - \$11,880. Send resume and at least three letters of recommendation to: Dr. J.C. Thompson, Department of Chemistry, University of Toronto, Toronto, Ontario, M5S 1A1.

CONCORDIA UNIVERSITY. Department of Chemistry. Applications are invited for the following positions: Analytical Chemistry. Senior position. Minimum of five years experience in analytical chemistry in industry and with contracts capable of providing industrial contracts and research programs. Capable of directing graduate students in analytical chemistry research and assisting in the direction of an industry-oriented analytical chemistry consulting unit. Excellent future. Sabbatical Replacement. (Nine months). Ph.D. in biochemistry. To teach undergraduate biochemistry courses, starting August 15, 1979. Salaries will be commensurate with qualifications and experience. A detailed curriculum vitae, publication list and recommendation letters from three referees should be sent to: Dr. R.E. Townshend, Chairman, Department of Chemistry, Concordia University, Montréal, Québec, H3G 1M8.

COMMUNICATION STUDIES

CONCORDIA UNIVERSITY. Department of Communication Studies. Area: Television. Qualifications: Ph.D. or equivalent qualification preferred. Candidates should have experience in studio production, as well as scholarly interest in a particular field such as theory, criticism, policy and legislation, aesthetics, writing. Preference will be given to candidates familiar with the development of Canadian broadcasting and communications. Principal Responsibilities: To conduct television seminar/practicum courses at the undergraduate and graduate-Diploma levels; to conduct courses in the candidate's particular field of additional competence. Rank: Assistant Professor (Possibility of Associate Professor rank). Salary: Present floor, Assistant Professor: \$19,853. Appointment Beginning: Academic year 1979-80. Applications: Considered as received; closing date for receipt of applications: May 1, 1979. Send letter of interest and curriculum vitae to: Personnel Committee, Department of Communication Studies, Concordia University, 7141 Sherbrooke Street West, Montreal, Quebec H4B 1R6.

CONCORDIA UNIVERSITY. Department of Education. Concordia University Department of Education invites applications for a new faculty post in Educational Technology, anticipated for 1979. Qualifications required are a Ph.D. or equivalent with active research and teaching interests in one or more of: instructional psychology; development and evaluation of educational materials (eg TV, film, computer-based learning, educational games); educational systems analysis and planning; self-instructional systems; distant study; industrial training; communication studies. Responsibilities include teaching primarily at the graduate level, research and development, theses supervision and educational technology internship supervision. Effective date June 1, 1979 or as soon as possible after that date. Salary negotiable based on experience and qualifications. Applications with curriculum vitae and names of referees should be submitted to Arpi Hamalian, Chairman, Department of Education, Concordia University, 1455 de Maisonneuve Blvd. West, Montreal, Quebec, Canada, H3G 1M8.

CONCORDIA UNIVERSITY. Department of Communication Studies. Area: Sound. Qualifications: Ph.D. or equivalent qualifications preferred. Candidates should have experience in creative communication through the use of Sound, as well as scholarly interest in area(s) such as environmental sound studies, aesthetics, broadcast policy and legislation, etc. Preference will be given to candidates familiar with the development of Canadian communications. Principal Responsibilities: To conduct Sound seminar/practicum courses at the undergraduate and graduate-Diploma levels; to conduct courses in the candidate's particular field of additional competence. Rank: Assistant Professor (Possibility of Associate Professor rank). Salary: Present floor, Assistant Professor: \$19,853. Appointment

Beginning: Academic year 1979-80. Applications: Considered as received; closing date for receipt of applications: May 1, 1979. Send letter of interest and curriculum vitae to: Personnel Committee, Department of Communication Studies, Concordia University, 7141 Sherbrooke Street West, Montreal, Quebec H4B 1R6.

CONCORDIA UNIVERSITY. Department of Communication Studies. Academic Opening. Area: Communication theory. Qualifications: Ph.D. completed. An established scholar with a solid record of research and publication; a humanities background or orientation; familiarity with Canadian and/or 'third world' mass media communications preferred. Responsibilities: To offer courses at the undergraduate and graduate-Diploma levels in the candidate's particular fields of competence; to conduct research; to direct appropriate students in the University's interdisciplinary Ph.D. in Humanities program. Rank: Associate Professor. Salary: Present Associate Professor floor at \$25,610. Appointment Beginning: 1979-80 academic year (subject to budgetary approval). Applications: Considered as received; closing date for receipt of applications: May 1, 1979. Send letter of interest and curriculum vitae to: Personnel Committee, Department of Communication Studies, Concordia University, 7141 Sherbrooke Street West, Montréal, Québec H4B 1R6.

COMPUTER SCIENCE

MEMORIAL UNIVERSITY OF NEWFOUNDLAND. Department of Computer Science. Applications are invited for full-time appointments at the rank of Assistant or Associate Professor level, to begin September 1979. Applicants should have a Ph.D. in Computer Science, with specialization in the area of computer graphics, mini and microcomputer systems, data base systems or programming languages. Responsibilities will include teaching at the undergraduate and graduate levels, research, and some committee work. Salary is negotiable. Send vitae and names of three references to: Professor J.M. Foltz, Acting Chairman, Department of Computer Science, Memorial University of Newfoundland, St. John's, Newfoundland A1B 3X7 Canada.

UNIVERSITY OF WINDSOR. School of Computer Science. Applications are invited for a full-time appointment at the Assistant, Associate or Full Professor level to begin July 1, 1979. A Ph.D. in Computer Science or related discipline is required. Applicants should also indicate whether they are interested in being considered for the position of Director of the School of Computer Science. Preference will be given to applicants who have demonstrated teaching and research capability in the area of software design, but applicants from all areas of specialization within Computer Science will receive full consideration. Salary will be dependent on qualifications and experience. The applications should be submitted together with the curriculum vitae and the names of three referees by May 1, 1979 to: Professor G.E. Lasker, Chairman of Selection Committee, School of Computer Science, University of Windsor, Windsor, Ontario, Canada N9B 3P4.

MCGILL UNIVERSITY. School of Computer Science. The School of Computer Science invites Applications for the position of Assistant Professor. A Ph.D. or equivalent is required. All specializations in computer science are of interest with emphasis (in the order given) on data base systems, operating systems, software systems, theory of programming languages. Responsibilities include research and teaching at the graduate and undergraduate level. Salary negotiable. Beginning September 1979. Candidates should write to: Professor M. M. Newborn, Director, School of Computer Science, McGill University, Burnside Hall, 805 Sherbrooke Street West, Montreal, Quebec, H3A 2K6, Canada.

MEMORIAL UNIVERSITY OF NEWFOUNDLAND. Regional College at Corner Brook. Department of Computer Science / Mathematics. 1. Undergraduate teaching position. 2. Besides teaching Computer Science courses, the successful applicant may be responsible for teaching a first or second year Mathematics course. The

Computer Science courses will introduce second-year students to such topics as computers and their use; interactive computing; the BASIC programming language; batch processing; the FORTRAN Programming language, and applications of these languages to the computer solution of problems. 3. The College offers a full range of courses at the first and second year levels. 4. Minimum educational requirement - MSc. 5. Salary and Rank dependent upon qualifications and experience. 6. Curriculum vitae and names of three referees to: Mr. E.J.F. Hodgett, Vice-Principal, Memorial University of Newfoundland, Regional College at Corner Brook, Corner Brook, Newfoundland, A2H 6P9. 7. Academic Year 1979-80.

COUNSELLING

UNIVERSITY OF MANITOBA. Counselling Service. 1. Counsellor position in the Counselling Service. Probationary appointment, Assistant Professor rank. 2. Required qualifications include an advanced degree in an appropriate discipline including supervised, practical or field experience. Candidates should possess proven work experience in individual counselling and group work in a post-secondary setting with special emphasis on: a) Career and Educational Planning, b) special programming for the non-traditional undergraduates, e.g. mature students. 3. Salary floor (1978-79) for Assistant Professor, \$16,480. 4. A letter of application, a curriculum vitae, transcripts and names and addresses of three referees should be forwarded to Dr. Lyle Eide, Chairman, Search Committee, Counselling Service, 474 University Centre, The University of Manitoba, Winnipeg, Manitoba, R3T 2N2. 5. Appointment date: July 1st, 1979 or as soon as possible thereafter. 6. Canadian citizens, landed immigrants and others eligible for employment in Canada at the time of application are especially encouraged to apply.

CREATIVE WRITING

CONCORDIA UNIVERSITY. Department of English. Applications are invited for an appointment in Creative Writing, Prose. Applicants should have an established reputation as writers. Teaching experience in the area and academic qualifications are assets. Salary and rank to be negotiated. Duties will include teaching creative writing prose at graduate and undergraduate levels and the direction of theses. The appointment will be effective from June 1st, 1979. Applications should be sent to Michael Brian, Chairman, Department of English, Concordia University, 1455 de Maisonneuve Blvd. West, Montreal, Quebec, H3G 1M8.

UNIVERSITY OF VICTORIA. Department of Creative Writing. The Department of Creative Writing, University of Victoria, has two sessional vacancies for the academic year 1979-80 only. Areas of expertise: drama, fiction, poetry or journalism. One position will concentrate on general writing workshops at the first year level; teaching experience and substantial publications will be required as well as the degree of MA or MFA. The second position will involve courses in journalism and publishing as well as expanding a co-operative education programme in these areas; the degree of Ph.D. plus at least five years of active experience will be required. For either position, the degree requirement may be waived for exceptional candidates with well-established, national reputations. Apply in writing with detailed curriculum vitae and names of two referees to Chairman, Department of Creative Writing, University of Victoria, Box 1700, Victoria, B.C. V8W 2Y2.

ONTARIO COLLEGE OF ART. Personnel Services. 1) Applications are invited for part-time sessional appointments in Creative Writing and Advanced Creative Writing for 1979-80 academic year. 2) Applicants should be Canadian authors with credible publications and some teaching experience preferred. 3) Duties will include conducting weekly seminar and editing and compiling a handbook of student writing.

4) Salary commensurate with qualifications and experience. 5) Send curriculum vitae and names of three referees to Tom Gordon, Chairman, Department of Liberal Arts Studies, Ontario College of Art, 100 McCaul Street, Toronto, Ontario M5T 1W1. 6) Closing date for applications is April 30, 1979.

CULTURAL STUDIES

TRENT UNIVERSITY. Cultural Studies Program. Applications are invited for a part-time sessional appointment to teach an undergraduate course in theory and history of twentieth-century painting; one night weekly, in Trent University's off-campus teaching program in Oshawa, Ontario, and on the same basis at the main campus in Peterborough. \$6000. Ph.D. or equivalent required plus teaching experience in the designated field. Send applications, accompanied by full curriculum vitae and the names of three referees to professor Sean Kane, Chairman, Cultural Studies Program, Trent University, Peterborough, Ontario, K9J 7B8.

DENTISTRY

UNIVERSITY OF ALBERTA. Faculty of Dentistry. Applications are invited for the position of Chairman of the Department of Dental Health Care. The Department of Dental Health Care is one of three Departments in the Faculty. It is responsible for the dentistry undergraduate programs in Community Dentistry, Preventive Dentistry, Practice Management, and Dental Auxiliary Utilization. The administrative functions and the academic programs for the Division of Dental Hygiene are handled by this Department. The Chairman is the chief executive officer of this Department for an initial five year period. Preference will be given to candidates with D.D.S. or equivalent and graduate training. Rank and salary are commensurate with qualifications and experience. Intramural private practice facilities are available. Applicants should be eligible for licensure in the Province. The University of Alberta is an equal-opportunity employer. All inquiries and applications (with curricula vitae) should be forwarded to: Dean G.W. Thompson, Faculty of Dentistry, Rm. 3036 Dentistry/Pharmacy Centre, University of Alberta, Edmonton, Alberta, T6G 2N8.

DRAMA

UNIVERSITY OF CALGARY. Department of Drama. Position: Senior scholar and teacher of Dramatic Literature. Starting Date: September 1, 1979. Rank: Associate or Full Professor. Salary: Negotiable. Minima for 1978-79 (Canadian funds): Associate Professor \$23,233; Full Professor \$30,805. Qualifications: Ph.D., university teaching experience, and major publication record are essential. Graduate teaching experience, and experience in the practical theatre are desirable. Duties: Teach undergraduate and graduate programs in drama. Supervise theses in areas of specialization. Possibility of directing or other practical theatre work. The Department of Drama at the University of Calgary is one of the largest in Canada, with 19 regular full-time faculty, 5 sessional instructors and 9 support staff. Its undergraduate instruction employs a unique "core program" in which dramatic literature is related to the Department's season of production. Facilities include a large thrust-stage theatre and a small studio theatre; in addition a new theatre complex will be completed by 1980. An M.A. program in Dramatic Literature has just been funded; M.F.A. programs in Directing and in Design are expected to follow. The City of Calgary, with a current population of over half a million, is the fastest-growing metropolis in North America. There is a professional symphony and several professional theatre companies. A major film studio and a large municipal performing arts complex are planned. With large oil, natural gas, and coal deposits, the Province of Alberta is extremely prosperous, and supportive of the arts. Apply to: Dr. R. B. Moore, Head, Department of Drama, The University of Calgary, 2920 - 24 Avenue N.W., Calgary, Alberta, T2N 1N4.

ECONOMICS

UNIVERSITY OF WATERLOO. Department of Economics. Applications are being accepted for the position of Lecturer or Assistant Professor (two positions) the rank depending upon the qualifications of the appointee. Completion or near completion of the Ph.D. degree is required. Excellent teacher of undergraduate and graduate economics wanted. Areas of specialization preferred: international trade, comparative economic systems/soviet economics, mathematical economics. Salary \$16,000 - \$21,000 depending upon education and experience. Appointment will be from September 1, 1979. Write to: Dr. John H. Hotson, Chairman, Department of Economics, University of Waterloo, Waterloo, Ontario, N2L 3G1. (First consideration will be given to those applicants who at the time of application are legally eligible to work in Canada for the period covered by this position. Availability of this position is subject to budgetary approval.)

THE UNIVERSITY OF NEW BRUNSWICK. Department of Economics. Applications are invited for a position as lecturer or Assistant Professor. Ph.D. or near completion. Duties — graduate and undergraduate teaching, and research interest in resource economics. Send curriculum vita and names of three referees to: Chairman, Department of Economics, University of New Brunswick, P.O. Box 4400, Fredericton, New Brunswick E3B 5A3.

CONCORDIA UNIVERSITY. Department of Economics. Possibility of two appointments effective January — June 1979 at ranks commensurate with the candidate's qualifications. Applicants with main or secondary specialization in one or more of the following areas are invited to apply: Economic development, Econometrics-Statistics, General Theory, Industrial Relations-Labour Economics, Monetary Economics, and Public Economics. Graduate and undergraduate teaching and supervision of Ph.D. dissertations. Salaries are fully competitive. Forward applications to Dr. B. Sahni, Chairman, Department of Economics, Concordia University, 1455 de Maisonneuve Blvd. W., Montreal.

ROYAL MILITARY COLLEGE OF CANADA. Department of Political and Economic Science, expects to make a regular appointment in economics. Rank open. PhD or near completion. Undergraduate teaching and research in French. Salary commensurate with qualifications and experience. Dr. P. Bussi res, Assistant to the Principal, Royal Military College of Canada, Kingston, Ontario, K7L 2W3. 1 July 1979. When filled.

ROYAL MILITARY COLLEGE OF CANADA. D partement de sciences  conomiques et politiques. Le d partement de sciences  conomiques et politiques offre un poste en sciences  conomiques. Le grade d pendra des qualifications et de l'exp rience. Le doctorat est pr f r . Enseigner en fran ais au premier cycle. La connaissance des deux langues officielles est requise. Le salaire d pendra des qualifications et de l'exp rience. Faire parvenir son curriculum vitae au Dr. Pierre Bussi res, Assistant au principal, Royal Military College of Canada, Kingston, Ontario, K7L 2W3. Date de nomination: 1 juillet 1979. Ouvert.

UNIVERSITY OF VICTORIA. Department of Economics. Applications are invited for a sessional appointment to replace a faculty member on study leave for the academic year 1979/80. Ph.D. or near completion. Duties include teaching two sections of an undergraduate course in Canadian economic history and one section of a graduate course. Salary according to qualifications. Send curriculum vitae and names of three referees to D.G. Ferguson, Department of Economics, University of Victoria, P.O. Box 1700, Victoria, B.C. V8W 2Y2.

UNIVERSITY OF LETHBRIDGE. Department of Economics. 1. One position. 2. Assistant or Associate Professor. 3. The minimum requirement is a Ph.D. or near completion. Specialists in the areas of economic development, industrial organization, international economics and monetary economics will be considered. 4. Teaching duties will be at the

undergraduate level. 5. Salary Scale: 1978-79: Assistant Professor — \$19,283 — \$24,686 (78-79) salary scale. Associate Professor — \$24,691 — \$32,022 (78-79) salary scale. Up to one-year terminal position beginning July 1, 1979. 6. Application with curriculum vitae and three references should be submitted to: Dr. S.G. Clarke, Chairman, Department of Economics, University of Lethbridge, 4401 University Drive, Lethbridge, Alberta T1K 3M4. 7. Deadline: 30 April 1979.

EDUCATION

MOUNT SAINT VINCENT UNIVERSITY. Education Department. The Education Department announces a new position in school psychology, at the assistant professor level. The applicant should be prepared to teach graduate courses in educational or school psychology and to supervise school-based practica. Additional responsibilities may include pre-service teacher preparation and/or undergraduate teaching as well as research, inservice courses and program development. Qualifications for the position are: 1) Ph.D. in education or psychology, 2) two years professional experience, 3) relevant publications or evidence of research potential. Salary will be commensurate with experience. Starting date for this anticipated opening is September, 1979. Applicants should send curriculum vitae and the names and addresses of three referees to: Dr. Marjorie Cook, Chairman, Education Department, Mount Saint Vincent University, Halifax, N.S., B3M 2J6.

UNIVERSITY OF MANITOBA. Faculty of Education. Department of Educational Administration and Foundations. 1. Assistant professor of educational administration. 2. Doctorate in educational administration with interest in continuing education of administrators. 3. Teaching at graduate and undergraduate levels, supervision of graduate students, participation in the field programs of the Department. 4. According to qualifications. 5. Send application, current C.V., and names of 3 referees to Dr. J.A. Riffel, Head, Department of Educational Administration and Foundations, Faculty of Education, University of Manitoba, Winnipeg. 6. September 1, 1979. Subject to final budget approval. 7. May 1, 1979, or when filled. Canadian citizens and landed immigrants in Canada are especially encouraged to apply.

CONCORDIA UNIVERSITY. Department of Education. Concordia University Department of Education invites applications for a new faculty post in Educational Technology, anticipated for 1979. Qualifications required are a Ph.D. or equivalent with active research and teaching interest in one or more of: instructional psychology; development and evaluation of educational materials (eg TV, film, computer-based learning, educational games); educational systems analysis and planning; self-instructional systems; distant study; industrial training; communication studies. Responsibilities include teaching primarily at the graduate level, research and development, theses supervision and Educational Technology internship supervision. Effective date June 1, 1979 or as soon as possible after that date. Salary negotiable based on experience and qualifications. Applications with curriculum vitae and names of referees should be submitted to: Arpi Hamalian, Chairman, Department of Education, Concordia University, 1455 de Maisonneuve Blvd. West, Montreal, Quebec, Canada, H3G 1M8.

CONCORDIA UNIVERSITY. Department of Education. Concordia University Department of Education invites applications for a new faculty post in Early Childhood Education, anticipated for 1979. Qualifications required are Ph.D. with research interests in one or more of the following: teacher training, learning environments, curriculum, child development (0-8 years). Responsibilities include teaching at undergraduate and graduate levels, supervision of teaching practice and supervision of theses. Effective date June 1, 1979 or as soon as possible after that date. Salary negotiable, based on experience and qualifications. Applications with curriculum vitae and names of referees should be submitted to: Arpi Hamalian, Chairman, Department of Education, Concordia University, 1455 de Maisonneuve Blvd. West, Montreal, Quebec, Canada, H3G 1M8.

UNIVERSITY OF ALBERTA. Faculty of Education. Sessional Vacancies. Applications from both men and women are invited for teaching positions at the Faculty of Education, University of Alberta for Spring Session (May 7 — June 15), Summer Session (July 7 to August 14) and the Fall and Winter terms (September 1979 to April 1980). Sessional positions are available in the following departments: Educational Administration; Educational Foundations; Educational Psychology; Elementary Education; Industrial and Vocational Education; Secondary Education. Applications and enquiries together with curriculum vitae and names of referees should be made to: Dr. W. H. Worth, Dean, Faculty of Education, University of Alberta, Edmonton, Alberta, T6G 2G5.

UNIVERSITY OF OTTAWA. Faculty of Education. The Faculty of Education invites applications for a full-time position in the English Teacher Education Section. Qualifications: Doctorate, preferably related to teacher education; background in learning theory, programme development, reading programmes, and secondary school education; experience in the supervision and counselling of student teachers; experience in educational research. Responsibilities: Teach undergraduate courses in learning theory and child development; participate in a teaching team with five other professors to provide a needs-oriented approach to teacher education; supervise student teachers through a counselling group approach. Rank and Salary: Commensurate with experience and qualifications. Employment Date: July 1, 1979. Closing Date: April 30, 1979. Inquiries: Application and Curriculum Vitae to: Dr. Claude MacNeil, Vice-Dean, Faculty of Education, University of Ottawa, 651 Cumberland Street, Ottawa, Ontario, K1N 6N5. Under separate cover, please have three referees submit letters of reference on your behalf.

UNIVERSITY OF OTTAWA. Faculty of Education. The Faculty of Education invites applications for a full-time position in the English Teacher Education Section. Qualifications: Doctorate preferred; minimum of Master's degree, preferably related to school counselling; background and experience in teacher education; experience in working with a counselling group in the area of the learner and the learning process; experience in working with elementary and secondary schools in the placement and supervision of student teachers; a record of successful teaching at both elementary and secondary school levels would be a definite asset. Responsibilities: Teaching a wide range of educational courses (multi-disciplinary) with expertise in the area of expressive arts; active involvement in the continuing design of an effective teacher training programme; involvement with in-service courses for practising teachers; advising and counselling in the pre-service and in-service programmes. Rank and Salary: Commensurate with experience and qualifications. Employment Date: July 1, 1979. Closing Date: April 30, 1979. Inquiries: Application and Curriculum Vitae to: Dr. Claude MacNeil, Vice-Dean, Faculty of Education, University of Ottawa, 651 Cumberland Street, Ottawa, Ontario, K1N 6N5. Under separate cover, please have three referees submit letters of reference on your behalf.

UNIVERSITY OF MANITOBA. Faculty of Education. Subject to budget approval a position will become available in Elementary Music Education. Teaching or supervisory work in music education and a background in elementary schools is essential. Completed studies in music education must demonstrate clear emphasis in Orff and/or Kodaly. It will be an asset to have completed a doctorate in music education. Duties are as follows: teaching of undergraduate electives in music education; providing a resource to summer/ evening courses for music specialists; initiating a graduate course in music education; supervision of a limited number of theses; liaison with music educators in Manitoba; service on University committees; willingness to assume leadership in the promotion of music education in the community served by the University. Salary and position are negotiable. Appointment as of September 1, 1979. Please send a res m  and the names of three referees to: Dr. H.E. May, Department Head, Curr: Humanities and Social Sciences, Faculty of Education, The University of Manitoba, Winnipeg, Manitoba, R3T 2N2.

UNIVERSITY OF MANITOBA. Faculty of Education. We presently have a position open at the assistant professor level in the department of Educational Psychology, University of Manitoba, dependent on university budgetary considerations. A doctoral degree and teaching certificate are required of applicant. The candidate would be teaching as a member of the division of Instructional Design and Evaluation in a 4 year B.Ed. undergraduate program and M.-Ed. program in one or more of the following areas: 1) The psychology of learning and instruction, 2) Cognitive processes, 3) Human development, 4) Methods of teaching behavioral science, 5) Computer applications in education, and 6) Measurement and evaluation. The candidate would be participating in the Department and Faculty committees and help in the supervision of practice teaching within the undergraduate education program. Position to commence July 1, 1979, and the position will be open until filled. Please send credentials to: Dr. Lauran Sandals, Ph.D., Head, Department of Educational Psychology, Faculty of Education, University of Manitoba, Winnipeg, Manitoba, R3T 2N2.

UNIVERSITY OF BRITISH COLUMBIA. Department of Adult Education. The Department of Adult Education, Faculty of Education, The University of British Columbia, Vancouver, B.C., is looking for a faculty member at the assistant professor rank. The position is dependent upon appropriate budget authorization. Equal opportunity is afforded for qualified male and female applicants. The department offers M.Ed. M.A. and Ed.D. degrees and a diploma program in adult education and currently has approximately 100 students in these programs, and eight full-time faculty. Applicants for the position, which would become effective July 1 or September 1, 1979, should have a doctorate in adult education, competence in quantitative methods of inquiry, a satisfactory publication record and an interest in pursuing a clear line of research. Experience in university teaching is desirable but not required. Duties will include: teaching courses in adult education, counselling student research, pursuing one's own line of research, and rendering community service to the field. The salary will be competitive. Written applications accompanied by curriculum vitae and names and addresses of three referees should be sent to: Chairman, Search Committee, Adult Education Department, University of British Columbia, 5760 Toronto Road, Vancouver, B.C., Canada, V6T 1L2. Tel. Gordon Selman (604) 228-2380. Applications will be accepted until the position is filled.

UNIVERSITY OF NEW BRUNSWICK. Division of Vocational Education Teacher Education (Kenya Project). Applications are being accepted for the following positions at the Kenya Technical Teacher's College, based in Nairobi, Kenya, East Africa. Contracts are for a period of two years' duration, commencing July and September. Salary competitive and determined by qualifications. Overseas allowance, subsidized housing and other fringe benefits as provided by the Canadian International Development Agency. Canadian citizenship required. Business Education: Accounting (if interested may also be considered for Head of Department Post). Preferred Qualifications: Degree in Business Education, Experience in teacher education, curriculum development, 5 years experience. Industrial Arts Education: Wood, metal, power and/or electrical combination (if interested may also be considered for Head of Department Post). Preferred Qualifications: Degree in Industrial Arts Education, experience in teacher education, curriculum development, technical qualifications in any of wood, metal, power or electricity, 5 years experience. Professional Studies: Pedagogical subjects, methods curriculum, etc. Preferred Qualifications: Degree in Industrial/Vocational Education, 5 years teaching experience. Technical: Power Mechanics/Technical Drawing. Preferred Qualifications: Degree in Industrial/Vocational Education, 5 years teaching experience. Journeymans Certificate or equivalent. Industrial Arts: Electricity. Preferred Qualifications: Degree in Industrial/Vocational Education, 5 years teaching experience. In any of the areas background experience in Teacher education is important. Letters of application, including detailed curriculum vitae, photocopies of diplomas, etc., and two recent references to be sent to: The Co-

Ordinator, K.T.T.C. Project, Division of Vocational Education, University of New Brunswick, P.O. Box 4400, Fredericton, N.B. E3B 5A3.

UNIVERSITE D'OTTAWA. Faculté d'Education. La Faculté d'Education de l'Université d'Ottawa sollicite des demandes d'emploi pour le poste suivant: Counselling scolaire, exercice complet, deuxième et troisième cycles. Titres et qualités: Doctorat en counselling scolaire. On accordera la préférence aux candidats bilingues (français et anglais). Tâches: Enseignement des cours suivants: Théories et pratique du counselling; Théories du choix vocationnel; Practicum en counselling scolaire; Counselling de groupe; Direction de thèses. Rang et salaire: Selon les titres, qualités et expérience du candidat. Date d'entrée en fonction: le 1er juillet 1979. Veuillez faire parvenir les demandes d'emploi et Curriculum vitae avant le 15 avril 1979 à: Monsieur Claude MacNeil, Ph.D., Vice-doyen de la faculté d'Education, Université d'Ottawa, 651, rue Cumberland, Ottawa, Ontario, K1H 6K9. Veuillez demander à trois arbitres de soumettre des lettres de référence en votre faveur à la Faculté.

EDUCATION (SPECIAL)

UNIVERSITY OF SASKATCHEWAN. Department for the Education of Exceptional Children. Summer Session 1979. Sessional Lecturer to teach EdExc 577: The Teaching of Reading to the Hearing Impaired. 6 weeks: July 3rd — August 9th 1979. Applications, together with a curriculum vitae and the names of three referees should be addressed to Dr. David Illerbrun, Head, Department for the Education of Exceptional Children, University of Saskatchewan, Saskatoon, Saskatchewan, S7N 0W0. Applications accepted until the position is filled.

UNIVERSITY OF MANITOBA. Department of Educational Psychology. We presently have a position open at the assistant professor level in the Special Education Division of the Department of Educational Psychology, University of Manitoba, dependent on university budgetary considerations. A doctoral degree and classroom teaching experience are considered desirable of applicants. The major duties of this position include: teaching courses in the undergraduate teacher education programs and the graduate, special education programs (pre-M.Ed. and M.-Ed.) in one or more of the following areas: 1) Emotional and Behavioral Disorders, 2) Learning Disabilities, 3) Areas related to the broad field of Special Education. The candidate would be participating in Department and Faculty committees and help in the supervision of students in the field. Position to commence July 1, 1979, and the position will be open until filled. Please send credentials to: Dr. Lauran Sandals, Ph.D., Head, Department of Educational Psychology, Faculty of Education, University of Manitoba, Winnipeg, Manitoba, R3T 2N2.

EDUCATIONAL TECHNOLOGY

CONCORDIA UNIVERSITY. Department of Education. Concordia University Department of Education invites applications for a new faculty post in Educational Technology, anticipated for 1979. Qualifications required are a Ph.D. or equivalent with active research and teaching interests in one or more of: instructional psychology; development and evaluation of educational materials (eg TV, film, computer-based learning, educational games); educational systems analysis and planning; self-instructional systems; distant study; industrial training; communication studies. Responsibilities include teaching primarily at the graduate level, research and development, theses supervision and Educational Technology internship supervision. Effective date June 1, 1979 or as soon as possible after that date. Salary negotiable based on experience and qualifications. Applications with curriculum vitae and names of referees should be submitted to: Arpi Hamalian, Chairman, Department of Education, Concordia University, 1455 de Maisonneuve Blvd. West, Montreal, Quebec, Canada, H3G 1M8.

ENGINEERING

UNIVERSITY OF WATERLOO. Department of Electrical Engineering. Applications are being accepted for the position of Assistant Professor in one of the following areas: 1) control theory, 2) digital hardware and computers, 3) circuit theory and 4) microwaves and antennas. Applicants must hold a doctorate and some industrial experience would be considered an asset. The position will involve undergraduate and graduate teaching and graduate student supervision. The successful applicant will be expected to pursue an active program of research compatible with departmental interests. The position will be open until filled, but an appointment for September 1979 is anticipated. The salary will be commensurate with experience and qualifications. A detailed curriculum vitae, a statement of research and teaching interests and the names of three referees should be sent to: Chairman, Department of Electrical Engineering, University of Waterloo, Waterloo, Ontario, N2L 3G1, Canada. Subject to the availability of funds. First consideration will be given to those applicants who at the time of application are legally eligible to work in Canada for the period covered by this position.

THE UNIVERSITY OF BRITISH COLUMBIA. Department of Civil Engineering. 1. Assistant or Associate Professor in Environmental Engineering; tenure track. 2. Ph.D. required with design or experimental experience being very desirable. 3. Teach undergraduate and graduate courses in water quality, solid waste management, and environmental impact assessment; conduct research in appropriate areas of environmental engineering. 4. Commensurate with qualifications. 5. Send resume and names of three references to Dr. R. G. Campanella, Head, Civil Engineering Department, University of British Columbia, Vancouver, B.C. V6T 1W5. 6. July 1, 1979. 7. Until position filled.

McMASTER UNIVERSITY. Department of Electrical Engineering. Three positions are open at the level of Assistant Professor of Electrical Engineering, two of them tenurable and one contractually limited. Candidates must have a strong commitment to teaching undergraduates, outstanding research potential or record, and a willingness to participate in ongoing projects. Two of the positions require demonstrated proficiency in (digital) hardware or software aspects of computer engineering. One position requires a strong background in numerical methods and computer-aided design. Ph.D. and refereed publications are essential. Address resumes and the names and addresses of three referees to Dr. J.W. Bandler, Chairman, Department of Electrical Engineering, McMaster University, Hamilton, Canada, L8S 4L7. Starting date July 1, 1979.

McMASTER UNIVERSITY. Department of Civil Engineering and Engineering Mechanics. The Department of Civil Engineering and Engineering Mechanics at McMaster University will be making a tenure track appointment in the geotechnical engineering field at the Assistant or Associate Professor level, effective July 1, 1979 or as soon as feasible thereafter. Applicants should hold the Ph.D. degree and have an interest and experience in experimental soil mechanics research. The successful applicant will be expected to participate in the undergraduate and graduate teaching programmes and also conduct research in his field of specialization; salary level commensurate with qualifications and experience. Applications with curriculum vitae and the names of three referees should be sent as soon as possible to Dr. W.K. Tso, Chairman, Department of Civil Engineering and Engineering Mechanics, McMaster University, Hamilton, Ontario, L8S 4L7.

CARLETON UNIVERSITY. Department of Mechanical and Aeronautical Engineering. Two openings exist for the appointment of Assistant or Associate Professors in the Department of Mechanical and Aeronautical Engineering. These appointments will be for a maximum of one year. Successful applicants will have an interest in teaching Fluid Mechanics, Engineering Drawing or Metallurgy. Applications with CV and names of three referees should be sent to: Dr. H.I.H. Saravanamuttoo, Chairman, Department of Mechanical and Aeronautical Engineering, Carleton

University, Ottawa, Ontario, K1S 5B6, Canada.

UNIVERSITY OF OTTAWA. Department of Mechanical Engineering. Applications are invited from interested candidates specializing in solid mechanics, preferably with competence in fracture mechanics or related area. Salary and level of appointment according to qualifications. Duties to include undergraduate and graduate teaching and research. Doctoral degree required. Bilingualism (English and French) an asset. Applications including curriculum vitae, details of experience and names of referees to be addressed to Dr. A. S. Krausz, Chairman, Department of Mechanical Engineering, University of Ottawa, Ottawa, Ontario, Canada, K1N 6N5.

UNIVERSITY OF OTTAWA. Department of Mechanical Engineering. Applications are invited from interested candidates specializing in heat transfer — fluid flow. Salary and level of appointment according to qualifications. Duties to include undergraduate and graduate teaching and research. Doctoral degree required. Bilingualism (English and French) an asset. Applications including curriculum vitae, details of experience and names of referees to be addressed to Dr. A. S. Krausz, Chairman, Department of Mechanical Engineering, University of Ottawa, Ottawa, Ontario, Canada, K1N 6N5.

UNIVERSITY OF TORONTO. Department of Chemical Engineering and Applied Chemistry. Food Engineering. Applications are invited for a professorial position in the Department of Chemical Engineering and Applied Chemistry, University of Toronto. The opening relates directly to an expansion of teaching and research in the field of food engineering. The expansion is possible as a result of a Development Grant from the Connaught Committee, University of Toronto. The appointment is in the tenure stream, commencing July 1st, 1979. Applicants should possess a Ph.D. or its equivalent in chemistry or chemical engineering, and have a demonstrated or potential ability to teach at the postgraduate level and to initiate research. It is expected that the appointment will be made in either the Assistant or Associate Professor rank. Applications with curriculum vitae and the names of three referees should be sent to: Professor M.E. Charles, Chairman, Department of Chemical Engineering and Applied Chemistry, University of Toronto, Toronto, Ontario, Canada M5S 1A4.

CONCORDIA UNIVERSITY. Department of Electrical Engineering. Faculty Position. An Assistant or Associate Professor is required in the Department of Electrical Engineering at Concordia University. The position will involve undergraduate and graduate teaching, supervision of graduate work, as well as research in the area of electronic and communication circuits. Applicants should hold a doctorate in an appropriate area and be familiar with modern technology. Industrial experience will be considered an asset. The position is for a one-year term, but is likely to become permanent. Applications, which should include curriculum vitae and the names of three referees, should be addressed to: Dr. A. Antoniou, Chairman, Department of Electrical Engineering, Concordia University, 1455 de Maisonneuve Blvd., West, Montréal, Québec H3G 1M8 Canada.

UNIVERSITY OF CALGARY. Department of Electrical Engineering. Applications are invited for an academic position at the Assistant Professor or Associate Professor rank effective July 1, 1979. The successful candidate should have expertise in signal processing and digital systems and is expected to teach undergraduate and graduate courses and carry out research in these areas of specialization. The appointment will be for a term of three years. Applications, including a detailed curriculum vitae and the names of three referees, should be mailed prior to April 15, 1979, to: Dr. L.T. Bruton, Head, Department of Electrical Engineering, The University of Calgary, Calgary, Alberta, Canada, T2N 1N4.

CONCORDIA UNIVERSITY. Department of Civil Engineering. Geotechnical or Transportation Engineering. Assistant or Associate Professor either in Geotechnical or Transportation Engineering position available immediately. Position involves teaching at the undergraduate and graduate level and participation in the research pro-

gram. Qualifications include a Ph.D. degree or equivalent in engineering, as well as practical experience. Rank and salary negotiable, depending on qualifications. Resumes should be directed to: Dr. M.S. Troitsky, Chairman, Department of Civil Engineering, Concordia University, 1455 de Maisonneuve Blvd. W., Montréal, Québec H3G 1M8.

MCGILL UNIVERSITY. Department of Electrical Engineering. The Department of Electrical Engineering is seeking additional staff in the area of Computational Field Analysis, at the Assistant or Associate Professor levels. Experience with finite element methods or projective techniques is essential; a good knowledge of at least one branch of Electrical Engineering Technology, and some knowledge of computer graphics are desirable. Bilingualism will be considered a definite asset. Inquiries and applications with recent curriculum vitae and names of three references should be sent to Dr. P.R. Bélanger, Chairman, Department of Electrical Engineering, McGill University, 3480 University Street, Montréal, Québec H3A 2A7.

ENGLISH

TRENT UNIVERSITY. Department of English. Applications are invited for a one-year sessional appointment at the floor of the Assistant Professor rank, to begin July 1, 1979, in the fields of Victorian and Modern English literature and Literary Theory. Some teaching off the main University campus may be required. Ph.D. and teaching experience in the above-named fields required. Applications, accompanied by full curriculum vitae and the names of three referees, should be sent to Professor J. M. Treadwell, Chairman, Department of English, Trent University, Peterborough, Ontario, K9J 7B8.

TRENT UNIVERSITY. Department of English. Applications are invited for a post-doctoral College Research Fellowship. The fellowship, which is tenable for one year from July 1, 1979, is valued at \$6,000 plus residence accommodation and meals. In addition to pursuing his research work the Research Fellow will be involved in the teaching of one upper-year course in Utopian literature. Applications containing a 500 word statement of the research project to be undertaken together with full curriculum vitae and the names of three referees should be sent to Professor J. M. Treadwell, Chairman, Department of English, Trent University, Peterborough, Ontario, K9J 7B8.

UNIVERSITY OF NEW BRUNSWICK. Department of English. Two positions, subject to financing: (1) visiting assistant professor, as one-year sabbatical replacement, 1979-80, with specialization in romanticism and / or Commonwealth literature. Ph.D. required; to teach introductory courses; 1978-1979 salary minima: lecturer, \$13,454; assistant professor, \$15,597. Send letter of application, names of referees, and c.v. to Professor Robert Cockburn, Chairman, Department of English, The University of New Brunswick, Box 4400, Fredericton, N.B., E3B 5A3, by June 1, 1979.

UNIVERSITY OF SASKATCHEWAN. Department of English. Applications are invited for the following positions, which are subject of approval by the University in its 1979-80 budget: 1. A probationary Assistant Professorship in 18th-century English Literature. 2. A probationary or temporary (leave-replacement) Assistant Professorship in Renaissance Literature. J. K. Johnstone, Chairman, Department of English, University of Saskatchewan, Saskatoon, Saskatchewan, S7N 0W0.

ENVIRONMENTAL PLANNING

THE NOVA SCOTIA COLLEGE OF ART AND DESIGN. Environmental Planning Department. Instructor or Assistant Professor with background in social sciences to teach an introductory course in social theory and planning and to teach in a studio course dealing with social research and planning projects. A one-year appointment with possibility of renewal. Minimal qualifications include master's degree in human geography or related fields, with experience in community planning or development. Position begins July 1, 1979.

Write, with curriculum vitae and references, to Bob Parker, Associate Professor, Environmental Planning Department, Nova Scotia College of Art and Design, 5163 Duke Street, Halifax, Nova Scotia B3J 3J6.

FRENCH

UNIVERSITY OF TORONTO. Department of French. Erindale College, University of Toronto. Applications are invited for a tenure-stream appointment at the level of Assistant Professor. Effective July 1, 1979. Qualifications: Ph.D. with specialization in modern French theatre and French-Canadian, and with experience as a language teacher. Duties: To teach undergraduate language practice and literature courses. Salary: To be based on qualifications, experience and availability of funds. Letter of application, including curriculum vitae and names of three referees, should be addressed to Professor M.P. Ducretet, Department of French, Erindale College, University of Toronto, Mississauga L5L 1C6. Position is offered subject to availability of funds. Applications received until position filled.

UNIVERSITE CARLETON. Département de français. Poste de professeur (candidat qui a reçu récemment son doctorat, ou qui le recevra bientôt). Domaines: Enseignement en: littérature et civilisation québécoises (19e et 20e siècles), littérature française (17e siècle) plus un cours de langue. Niveau: 2e année du B.A. Traitements: \$15,000 (1er juillet 1979 au 30 juin 1980; il s'agit d'un poste à durée limitée, non renouvelable, destiné à combler une vacance occasionnée par un départ en congé). Date de clôture des candidatures: le 1er mai 1979. Veuillez faire parvenir votre curriculum vitae à Donald Smith, Directeur, Département de français, Université Carleton, Ottawa, K1S 5B6.

UNIVERSITY OF ALBERTA. Department of Romance Languages. Possibility of an appointment in French. Ph.D., teaching excellence and versatility essential. Effective date of appointment, July 1, 1979. Rank and salary in accordance with qualifications and experience. Applications are to be sent to Prof. J. A. Creore, Chairman, Department of Romance Languages, University of Alberta, Edmonton, Alberta, T6G 2E6, and will be accepted until the position is filled. The University of Alberta is an equal opportunity employer. (Position subject to budgetary approval).

GEOGRAPHY

SAINT MARY'S UNIVERSITY. Department of Geography. Sessional position. A sabbatical replacement is required to teach three courses. These will be: (1) Introductory Physical Geography; (2) Coastal Geomorphology and Coastal Zone Management. Applications will be considered from people who can teach Introductory Physical Geography and only one of the courses in (2) above but who are qualified to offer a course in Settlement Geography or Geographical Aspects of Modern World Problems. Appointment is for the period September 1979 to May 1980, and will be at the Lecturer or Assistant Professor level. Ph.D. or Ph.D. in progress is essential. Applications, including a curriculum vitae and the names and addresses of three referees, should be sent to: Dr. Douglas Day, Chairman, Department of Geography, Saint Mary's University, Halifax, Nova Scotia B3H 3C3 - phone (902) 422-7331. Ext. 263.

QUEEN'S UNIVERSITY. Department of Geography. Assistant Professor. One-year or two-year non-renewable appointment. Ph.D. required, or thesis submitted. To commence September 1, 1979. Salary according to University scale. Undergraduate and graduate teaching in areas of cultural-historical geography. Please submit application, with full curriculum vitae and the names of three referees, to: Dr. Richard I. Ruggles, Department of Geography, Queen's University, Kingston, Ontario. Applications accepted until position is filled.

UNIVERSITY OF TORONTO, SCARBOROUGH COLLEGE. Department of Geography. Applications are invited for a contractually-limited appointment at Assistant Professor level in Geography at Scar-

borough College, University of Toronto. Qualifications: Ph.D. in Geography with specialization in urban and environmental areas. (Candidates at an advanced stage will be considered for position at lecturer level.) The position will involve teaching in urban geography and preference will be given to candidates with teaching and research interests in the environmental impact of urban development. The initial appointment will be for one year with possibility of renewal for up to four further years. Applications should be sent before May 15, 1979 to: Dr. R. B. Bryan, Geography, Scarborough College, University of Toronto, West Hill, Ontario, M1C 1A4.

UNIVERSITY OF SASKATCHEWAN. Department of Geography. Applications are invited for a 10-month sabbatical replacement position at the Assistant Professor level starting August 1, 1979. The candidate will be required to teach climatology at the second year and fourth year undergraduate levels, and possibly also a section of the introductory physical course. Salary offered is at least \$15,500. Applications should be addressed to: Dr. J.H. Richards, Head, Department of Geography, University of Saskatchewan, Saskatoon, Saskatchewan S7N 0W0, with three letters of reference.

TRENT UNIVERSITY. Department of Geography. The Department of Geography, Trent University, wishes to make a sessional appointment at the Assistant Professor level, commencing July 1st, 1979 and ending June 30th, 1980, and invites applications for this position. Responsibilities would be to teach several courses on a team-basis: Introductory Geography, Climatology (second year) and Climatic Change (third year), limited participation in Honours and Graduate thesis supervision may be required. Ph.D. or A.B.D. preferred. Candidates should send a complete curriculum vitae, a statement of teaching and research interests, and names of two references to: The Chairman, Department of Geography, Trent University, Peterborough, Ontario, K9J 7B8.

BISHOP'S UNIVERSITY. Department of Geography. Applications are invited for a sessional appointment to replace a faculty member on leave, January 1980 to June 1980. Qualifications for the position are a Ph.D. in Geography (or equivalent) and some teaching experience. Duties will include teaching three undergraduate courses in one or more of the following areas: (i) political / cultural geography, (ii) biogeography / resource management / environmental policy, (iii) agricultural geography / rural development and land use. Salary will be commensurate with qualifications and experience; 1978-79 salary floors are: lecturer, \$16,640./year, assistant professor \$20,800./year. Applications with curriculum vitae and names of three referees should be addressed to Dr. T. A. Judson, Box 25, Bishop's University, Lennoxville, Québec, Canada, J1M 1Z7.

GEOLOGY

DALHOUSIE UNIVERSITY. Faculty of Arts and Science. Department of Geology. The Department has a vacancy for a geologist with broad interests, preferably in the general fields of mineralogy, petrology, structural geology, economic geology, or geochemistry. He or she would be expected to play a full part in teaching at the undergraduate and graduate level, and in research programmes with graduate students. The Department covers a wide range of interests and has good facilities. It carries out cooperative work with the N.S. Department of Mines and has close ties with the Bedford Institute of Oceanography. The appointment will be made as soon as possible at the Assistant or Associate Professor level, with appropriate salary. Canadians studying abroad are urged to apply. Further details may be obtained from the Acting Chairman, Department of Geology, Dalhousie University, Halifax, Nova Scotia, Canada, B3H 3J5.

GERMAN

MEMORIAL UNIVERSITY OF NEWFOUNDLAND. Department of German. 1. Undergraduate teaching position. 2. To teach German at the first and second year university levels. 3. The College offers a full

range of courses at the first and second year level. 4. Minimum educational requirement - Master's Degree. 5. Rank and salary dependent on qualifications and experience. 6. Curriculum vitae and names of three referees to: Dr. H.H. Jackson, Head, Department of German and Russian, Memorial University of Newfoundland, St. John's, Newfoundland A1C 5S7. 7. Academic Year 1979-80.

UNIVERSITY OF VICTORIA. Dept. of Arts & Sciences. Germanic Studies. A sessional replacement appointment from September 1, 1979 to April 30, 1980 to teach junior and intermediate language courses and possibly an upper-level literature course. Ph.D. with teaching experience preferred, but experienced applicants now completing Ph.D. may be considered. Salary commensurate with qualifications. Appointment may be made at any time. Candidates should contact the Chairman, Department of Germanic Studies, University of Victoria, Victoria, B.C., Canada, V8W 2Y2.

HISTORY

SAINT MARY'S UNIVERSITY. Department of History. Probable one or two year replacement in Chinese and Modern East Asian History to commence September 1, 1979. Ph.D. normally required. Duties: to offer three undergraduate courses and be involved in the development of the Asian Studies Program. Appointment may be at the rank of lecturer, assistant or associate professor. Salary will be commensurate with rank. Apply to: Dr. G.F.W. Young, Department of History, Saint Mary's University, Halifax, Nova Scotia B3H 3C3.

UNIVERSITY OF ALBERTA. Faculté Saint-Jean. Professeur d'Histoire. Ph.D. ou équivalent. Spécialisation: Histoire du Canada et du Canada français hors Québec. Les cours doivent être enseignés en français. Échelle de salaires (78-79): \$18,530 - \$24,059; \$24,060 - \$34,728; \$31,680 - \$42,503. Ecire: Bureau du Doyen, Faculté Saint-Jean, 8406-91 Street, Edmonton, Alberta, T6C 4G9, en joignant un curriculum détaillé ainsi que les noms et adresses d'au moins trois répondants. The University of Alberta accepte indifféremment les candidatures féminines et masculines.

HISTORY OF SCIENCE

UNIVERSITY OF TORONTO. Institute for the History and Philosophy of Science and Technology. History of Science. 1. Assistant Professor, one- to three-year appointment in period of scientific revolution. 2. Promising scholarship, Ph.D., publications, teaching experience. 3. To-teach and direct research at graduate and undergraduate levels. 4. Assistant Professor scale, base \$16,500. 5. Professor Trevor H. Levere. Acting Director, Institute for the History and Philosophy of Science and Technology, University of Toronto, M5S 1A1, Canada. 6. 1 September 1979. 7. 1 May 1979.

UNIVERSITY OF TORONTO. Institute for the History and Philosophy of Science and Technology. History of Science. 1. Assistant Professor, one- to three-year appointment in history of 18th- and 19th-century physics. 2. Promising scholarship, Ph.D., publications, teaching experience. 3. To teach and direct research at graduate and undergraduate levels. 4. Assistant Professor scale, base \$16,500. 5. Professor Trevor H. Levere. Acting Director, Institute for the History and Philosophy of Science and Technology, University of Toronto, Toronto, M5S 1A1, Canada. 6. 1 September 1979. 7. 1 May 1979.

HOME ECONOMICS

THE UNIVERSITY OF MANITOBA. Faculty of Home Economics. Department of Clothing and Textiles. Academic appointment effective July 1, 1979 for a person who can give leadership in expanding undergraduate and graduate programs concerned with marketing aspects of clothing, textiles, and related merchandise. Responsibilities include teaching, thesis supervi-

sion, and research. Candidates with a Ph.D., and professional experience in business or industry preferred. Teaching experience and knowledge of the Canadian marketplace would be of advantage. Rank and salary commensurate with experience. Send applications to Dr. M.I. Morton, Department of Clothing and Textiles, University of Manitoba, Winnipeg, R3T 2N2. Applications accepted until position filled. Canadian citizens, landed immigrants and others eligible for employment in Canada at the time of application are especially encouraged to apply. Position subject to budgetary approval.

HUMAN COMMUNICATION DISORDERS

DALHOUSIE UNIVERSITY. School of Human Communication Disorders. Assistant Professor, Audiology-Aural Rehabilitation commencing September 1979 or sooner. Salary in accordance with experience and qualifications. Ph.D. (A.B.D. considered). Must meet requirements for membership in the Canadian Speech and Hearing Association. To teach courses and supervise practicum in all phases of Aural Rehabilitation to students pursuing the M.Sc. degree in Audiology or Speech Pathology. Expertise in the areas of auditory training and speech reading in addition to counselling and development of community programmes essential. Background in basic clinical audiology required. Send application, current curriculum vitae, and names of three referees to: Dr. Michael Webster, Director and Professor, School of Human Communication Disorders, Dalhousie University, Ground Floor, Fenwick Tower, Halifax, Nova Scotia, B3H 3J5.

HUMAN DEVELOPMENT

UNIVERSITY OF TORONTO. Erindale College, Centre for Research in Human Development. Social, Personality, Abnormal, Developmental Psychologists. The University of Toronto, Erindale Campus, has two positions available at the level of Assistant Professor beginning July 1, 1979. One position is in the tenure stream and the other is a two-year contractually limited appointment; candidates are invited to apply for either or both positions. Applicants must possess the Ph.D. or be near completion of all requirements, and show evidence of research productivity and teaching interests. Please send curriculum vitae and three letters of recommendation to Dr. F. I. M. Craik, Department of Psychology, Erindale College, Mississauga, Ontario, Canada, L5L 1C6.

MEMORIAL UNIVERSITY OF NEWFOUNDLAND. Institute for Research in Human Abilities. 1. Assistant or Associate Professor (Research). 2. Ph.D. and a strong interest in experimental research in the area of videotaped instruction. 3. Conduct independent research with possibility of teaching in area of specialization. 4. Negotiable, according to qualifications and experience. 5. Dr. Pauline A. Jones, Director, Institute for Research in Human Abilities, Memorial University of Newfoundland, St. John's, Newfoundland, A1C 5S7. 6. July 1, 1979, or as soon as successful applicant is available. 7. April 30, 1979.

INSTRUCTIONAL DEVELOPMENT

McMASTER UNIVERSITY. Instructional Development Centre. An educational development consultant is required initially for a two year appointment in the Instructional Development Centre at McMaster University (1979-81). Qualifications: Applicants should have a PhD degree, together with some university teaching experience. Experience and/or Training: In addition applicants must have experience in some of the following areas: consulting with university faculty on teaching skills and course design, workshop design and professional development programmes for faculty, evaluation of teaching and learning, training programmes for teaching assistants and faculty members. Salary: Dependent on experience, comparable with Assistant Pro-

fessor. Nature of Duties: The consultant will be one of a professional staff of two working as resource people to faculty members and academic departments in matters of course planning, evaluation and teaching improvement by means of workshops, projects and consultation. A particular responsibility will be to assist academic departments in establishing their own instructional development programmes for teaching assistants and faculty members. Closing Date: Applications will be accepted until April 30th with appointment to commence as soon as possible thereafter. Applications, with the names of three referees, should be sent to Dr. D.A. Humphreys, Gilmour Hall, Room 103, McMaster University, Hamilton, Ontario L8S 4L8.

INTERDISCIPLINARY STUDIES

CONCORDIA UNIVERSITY. Centre for Interdisciplinary Studies. The Centre for Interdisciplinary Studies has a tenure track position in its Science and Human Affairs Programme. Candidates in the fields of Science, Technology and Society, the History of Science, and the Philosophy of Science will be considered. A Ph.D. degree and teaching experience is required. Salary and rank are dependent upon qualifications. Please direct applications to: Dr. J. Tresierra, Director, Centre for Interdisciplinary Studies, Concordia University, 2030 MacKay Street, Montreal, Quebec, Canada.

KINESIOLOGY

SIMON FRASER UNIVERSITY. Department of Kinesiology. 1. Assistant professor. 2. PhD with research experience in applied physiology and biomechanics. Some experience in the methods and tactics of team sports will be advantageous. 3. Teaching and research in some of motor learning, physiology and biomechanics. It is anticipated that the successful applicant will take a major role in teaching the biomechanical basis for motor performance to potential teachers of physical education and develop a motor activities laboratory course. Applicants should balance a well developed scientific background with practical experience either as a teacher of physical education or as tutor to physical education students. 4. Salary commensurate with qualifications and experience. 5. Dr. E.W. Banister, chairman, department of kinesiology, Simon Fraser University, Burnaby, B.C., V5A 1S6. 6. May 1 or September 1, 1979 subject to availability of funds. 7. When position filled.

LAW

THE UNIVERSITY OF WESTERN ONTARIO. Faculty of Law. Applications are invited for assistant, associate and full professor positions in the Faculty of Law for appointments to commence July 1, 1979. Applications should be addressed to Dean David L. Johnston, Faculty of Law, the University of Western Ontario, London, Ontario, N6A 3K7, and should contain a detailed curriculum vitae together with the names of three referees. All openings subject to availability of funds.

LINGUISTICS

UNIVERSITY OF ALBERTA. Department of Linguistics. Applications are invited for the position of sessional lecturer (8 months) commencing September 1, 1979. Qualifications required include Ph.D. (preferred), competence, experience and excellence in teaching at the undergraduate level. Salary minimum 8 months: \$12,353.00 (with Ph.D.). University of Alberta is an equal opportunity employer. Applications accepted until position is filled. Send letter of application, c.v., and three letters of reference to Dr. Gary D. Prideaux, Chairman, Department of Linguistics, University of Alberta, Edmonton, Alberta, Canada T6G 2H1. Position is subject to budgetary approval.

MANAGEMENT

UNIVERSITY OF CALGARY. Faculty of Management. The University of Calgary, Faculty of Management, is seeking qualified candidates to fill positions in all areas including Accounting, Policy and Environment, Finance, Industrial Relations, Management, Management Science and Management Information Systems and Marketing, beginning July 1, 1979. Ph.D. or D.B.A. preferred. Rank and salary based on qualifications and experience. Applications should be addressed to: Dr. George S. Lane, Dean, Faculty of Management, The University of Calgary, Calgary, Alberta, T2N 1N4.

UNIVERSITY OF TORONTO. Faculty of Management Studies. Applications are invited for a position as an Assistant / Associate Professor of Management Science and/or Statistics at the Faculty of Management Studies, University of Toronto, available July 1, 1979. This is a contractually limited Term Appointment of two years. Salary range is \$19,000 to \$23,000, depending on qualifications. Candidates should possess a doctorate in a relevant field. At least, three years of teaching experience at the university level is required. Secondary interest in Operations Research / Operations Management would be desirable. Applications should be submitted to: Professor Allan E. Paull, Area Coordinator, Management Science and MIS, Faculty of Management Studies, University of Toronto, 246 Bloor Street West, Toronto, Ontario M5S 1V4.

UNIVERSITY OF WATERLOO. Department of Management Sciences. Applications are being accepted for a position of Assistant Professor in Applied Economics / Management Sciences. Qualifications include Ph.D. with competence in economics, especially as applied to engineering. Preference will be given to candidates with capabilities in Operations research or organizational analysis. Experience in engineering or allied disciplines is desirable as the appointment is within the Engineering Faculty. Duties include teaching courses, supervision of graduate students, and continuing research activities. Salary floor at the Assistant Professor level is \$17,500. Those interested should send applications to Dr. D. W. Conrath, Chairman, Department of Management Sciences, University of Waterloo, Waterloo, Ontario, N2L 3G1. Effective date for appointment is September 1, 1979. Closing date for receipt of applications is April 30, 1979. Subject to the availability of funds. First consideration will be given to those applicants who at the time of application are legally eligible to work in Canada for the period covered by this position.

UNIVERSITY OF WATERLOO. Department of Management Sciences. Applications are being accepted for a position of Assistant Professor in Organizational Behavior / Management Sciences. Qualifications include Ph.D. with competence in organizational theory and organizational behavior. Experience in engineering or allied disciplines is desirable as the appointment is within the Engineering Faculty. Duties include teaching courses, supervision of graduate students, and continuing research activities. Salary floor at Assistant Professor level is \$17,500. Those interested should send applications to Dr. D. W. Conrath, Chairman, Department of Management Sciences, University of Waterloo, Waterloo, Ontario, N2L 3G1. Effective date for appointment is September 1, 1979. Closing date for receipt of applications is April 30, 1979. Subject to the availability of funds. First consideration will be given to those applicants who at the time of application are legally eligible to work in Canada for the period covered by this position.

MATHEMATICS

MEMORIAL UNIVERSITY OF NEWFOUNDLAND. Regional College at Corner Brook. Department of Computer Science / Mathematics. 1. Undergraduate teaching position. 2. Besides teaching Computer Science courses, the successful applicant may be responsible for teaching a first or second year Mathematics course. The Computer Science courses will introduce second-year students to such topics as com-

puters and their use; interactive computing; the BASIC programming language; batch processing; the FORTRAN Programming language, and applications of these languages to the computer solution of problems. 3. The College offers a full range of courses at the first and second year levels. 4. Minimum educational requirement - M.Sc. 5. Salary and Rank dependent upon qualifications and experience. 6. Curriculum vitae and names of three referees to: Mr. E.J.F. Hodgett, Vice-Principal, Memorial University of Newfoundland, Regional College at Corner Brook, Corner Brook, Newfoundland, A2H 6P9. 7. Academic Year 1979-80.

UNIVERSITY OF SASKATCHEWAN. Department of Mathematics. Applications are invited for a tenure track position at the Assistant Professor level. Duties involve teaching and research in statistics as well as assisting in the statistical consulting service provided for users of statistics at the University. The appointment is subject to confirmation in the final budgeting process. Applications, including curriculum vitae and names of three persons who can provide letters of reference, should be sent to: Professor G.H.M. Thomas, Acting Head, Department of Mathematics, University of Saskatchewan, Saskatoon, Saskatchewan S7N 0W0.

UNIVERSITY OF REGINA. Department of Mathematics and Statistics. 1. Lecturer or assistant professor. 2. Ph.D. or near completion. 3. Teach two classes in each semester and one class in spring sessions; one of the classes is Sampling Techniques. 4. Salary range: Lecturer (\$14,081.00 - \$19,706.00) Assistant Professor (\$17,932 - \$26,005). 5. Head, Department of Mathematics and Statistics, University of Regina, Regina, Saskatchewan S4S 0A2. 6. 1 September 1979 or earlier. 7. Open until filled and subject to budgetary approval.

ACADIA UNIVERSITY. Department of Mathematics. Applications are invited for a tenure-stream position in Probability and Statistics beginning September 1, 1979. Ph.D. required. Duties will include teaching and research. Salary and rank commensurate with qualifications. Candidate should forward curriculum vitae and arrange for three letters of reference to be sent to: F. Chipman, Department of Mathematics, Acadia University, Wolfville, Nova Scotia, B0P 1X0.

TRENT UNIVERSITY. Department of Mathematics. Applications are invited for a one-year part-time (three-quarter) appointment (subject to budgetary approval) for the position of a numerical analyst in the academic year 1979-80. Responsibilities would include instruction in undergraduate courses in Numerical Analysis. Candidates must have completed or be nearing completion of a Ph.D. Applications should be submitted immediately to: Professor Iswar C. Chakravarty, Department of Mathematics, Trent University, Peterborough, Ontario, Canada, K9J 7B8.

DALHOUSIE UNIVERSITY. Mathematics Department. Computer Science. Dalhousie University expects to appoint a Computer Scientist as of July 1, 1979. This appointment is for a tenure track position at the rank of Assistant Professor, and is subject to final budgetary approval. Responsibilities include research in Computer Science and teaching mainstream Computer Science courses within the environment of a Mathematics Department. Applicants should send a curriculum vitae, including the names of three referees, to: P.N. Stewart, Chairman, Mathematics Department, Dalhousie University, Halifax, Nova Scotia, B3H 4H8.

UNIVERSITY OF TORONTO. Department of Mathematics. Six appointments at the rank of Tutor for the academic year 1979-80 (September 1st - April 30th). Duties will include meeting tutorial sections of first year courses (perhaps as many as eight sections, distributed over two or three courses), marking, assisting students in the Mathematics Aid Centre, and some administrative work. Appointments will be renewable at the pleasure of both parties. The salary floor is \$1,141.67/mo., for eight months. Fringe benefits include University of Toronto Pension Scheme, group life insurance, disability insurance, dental insurance, and hospital and medical insurance provisions. Qualifications include a Master's degree in mathematics or in a related discipline, and extensive, successful experience at the elementary university level. An applicant should send a cur-

riculum vitae, including names of 3 referees able to comment on the applicant's mathematical competence, success in teaching and relevant personal qualities. We would welcome any evidence of excellence in teaching, such as a published Course Evaluation. Qualified persons who are interested but unsure of their availability should apprise us of their interest, and of the contingencies, by May 1st, 1979. Applications and enquiries should be sent, by May 1st, 1979, to L. Terrell Gardner, Associate Chairman, Department of Mathematics, University of Toronto, Toronto, Ontario, M5S 1A1.

MEDICINE

UNIVERSITY OF TORONTO. Faculty of Medicine. 1) Banting and Best Department of Medical Research. 2) Research Associate 3) Expertise in membrane biochemistry, membrane protein isolation and protein chemistry. Two to three years post Ph.D. 4) Isolation and characterization of membrane proteins from pancreatic B cells of rats with normal and diabetic genotypes. 5) \$15,000. 6) Dr. D.H. MacLennan, Banting and Best Department of Medical Research, University of Toronto, 112 College Street, Toronto M5G 1L6. 7) July 1, 1979. 8) April 30, 1979.

UNIVERSITY OF TORONTO. Faculty of Medicine. 1) Playfair Neuroscience Unit — University of Toronto. Toronto Western Hospital. 2) Post-doctoral Fellowship for one year. 4. Project concerns CSF acid-base balance in chronic encephalopathy using humans and animal models. 5. to \$15,000 maximum. 6. Drs. P. L. Carlen or B. Kapur, Search Committee, Playfair Neuroscience Unit, Toronto Western Hospital, North Pavilion, 399 Bathurst Street, Toronto, Ontario, M5T 2S8. 7. As soon as possible and no later than July 1, 1979. 8. May 31, 1979.

UNIVERSITY OF TORONTO. Faculty of Medicine. 1. Research Associate, Division of Clinical Pharmacology, Hospital for Sick Children, Toronto, Ontario. 2. University Departments: Research Associate — Departments of — Pharmacology and Pediatrics, University of Toronto. Affiliation: Research Institute, Hospital for Sick Children; Department of Pediatrics, Hospital for Sick Children and University of Toronto; Department of Pharmacology, University of Toronto. 3. Required Degrees: Ph.D. or equivalent in pharmacology or related health science. 4. Job Description: The successful applicant will be engaged in the study of drug disposition in children. Particular emphasis will be placed on the development of non-invasive methodology for the conduct for such studies in newborn infants and young children. 5. Salary: Commensurate with training and experience. 6. Position available: April 1, 1979 or as soon after as possible. 7. Deadline for Applications: When suitable candidate selected. 8. Apply to: Dr. S. M. MacLeod, Director, Division of Clinical Pharmacology, Hospital for Sick Children, 555 University Avenue, Toronto, Ontario, M5S 1X8. Please include curriculum vitae and three letters of reference.

UNIVERSITY OF TORONTO. Banting and Best Department of Medical Research. At University of Toronto, a Research Associateship is available. Experience in nucleic acid chemistry, protein biosynthesis and microbiology genetics preferred. A Ph.D., two years of post-doctoral experience and three letters of reference are required. Write: Professor M. C. Ganoza, Banting and Best Department of Medical Research, 112 College Street, Toronto, Ontario, M5G 1L6, Canada.

MEMORIAL UNIVERSITY OF NEWFOUNDLAND. Faculty of Medicine. Health Sciences Centre. Pre and post doctoral positions are available for studies on the protein synthesizing system with special emphasis on structure and function of mRNP particles, ribosomes — topography, biogenesis and function — under various conditions of growth and development. Teaching opportunities available. Reply with resume to: Professor Bruce H. Sells, Laboratories of Molecular Biology, Faculty of Medicine, Memorial University of Newfoundland.

MEMORIAL UNIVERSITY OF NEWFOUNDLAND. Faculty of Medicine. Health Sciences Centre. Anaesthesia. Vacancies exist for Canadian licenced

anaesthetists with F.R.C.P. or eligibility to join the academic staff of Memorial University and/or work on a fee-for-service basis at the new General Hospital, Health Sciences Centre. There are good opportunities for participation in Residency training, undergraduate teaching and research. Anaesthesia is provided for General, Cardiac, Neurological, Thoracic, Plastic and Orthopaedic Surgery, and there is a busy, multi-disciplinary Intensive Care Unit and Pain Clinic. Write for further information to Chairman of Anaesthesia, Faculty of Medicine, Memorial University of Newfoundland, St. John's, Newfoundland Canada A1B 3V6.

UNIVERSITY OF TORONTO. Department of Medicine. 1. Department of Medicine. 2. Title: Lecturer (Division of Cardiology), Staff Physician — Toronto General Hospital. 3) Qualifications required: M.D., F.R.C.P. (C) Cardiology. 4. Nature of Duties: i) Coronary intensive care; ii) Development of significant research program related to coronary care. 5. Salary: commensurate with experience. 6. Person to whom enquiries should be sent: Dr. E. D. Wigle, Director, Division of Cardiology, Toronto General Hospital, 101 College Street, UC 1 - 104, Toronto, Ontario, M5G 1L7. 7. Effective date of appointment: July 1, 1979. 8. Closing date for receipt of applications: April 30, 1979.

UNIVERSITY OF TORONTO. Faculty of Medicine. 1) Department of Microbiology. 2) Assistant or Associate Professor — in University Department. Staff Microbiologist (Bacteriologist Toronto General Hospital) (Parasitologist). 3) Must hold either M.D., F.R.C.P. (Medical Microbiology) qualifications or a Ph.D. degree with either two years of approved post-doctorate training in Diagnostic Microbiology or three years of supervised experience in a major Diagnostic laboratory. 4) Involves major diagnostic laboratory responsibility as well as medical student teaching responsibility and research. 5) Salary and hospital appointment will depend on credentials and experience. 6) Dr. Norman A. Hinton, Professor and Chairman, Department of Medical Microbiology, Faculty of Medicine — University of Toronto, Banting Institute, 100 College Street, Toronto, Ontario, M5G 1L5. 7) July 1, 1979. 8) April 30, 1979.

MEMORIAL UNIVERSITY OF NEWFOUNDLAND. Faculty of Medicine. Faculty post in psychotherapy. The incumbent is expected to undertake the direction of the teaching of psychotherapy to psychiatric residents, medical students and students in para medical disciplines, and to play a major part in the actual teaching and supervision. The post includes a staff appointment at the teaching hospital where the clinical practice is to be developed. Academic rank will depend on qualifications and academic experience of the appointee. Applications including a full curriculum vitae and the names of three referees should be received by April 30, 1979, and should be addressed to the Chairman in Psychiatry, Memorial University of Newfoundland, Medical Faculty, St. John's, Newfoundland. A1B 3V6.

UNIVERSITY OF ALBERTA. Faculty of Medicine. Endocrinologist: Canadian Fellowship eligible Int. Med.; research interest in lipid, carbohydrate or hypertensive disorders. Full-time position with teaching and practice components. Contact: Dr. Peter M. Crockford, Director, Division of Endocrinology and Metabolism, Faculty of Medicine, University of Alberta, Edmonton, Alberta, Canada, T6G 2G3.

UNIVERSITY OF TORONTO. Faculty of Medicine. 1. Department of Family and Community Medicine. 2. University rank - Demonstrator and Junior Staff physician at Sunnybrook Medical Centre. 3. M.D. and must possess certification in Family Medicine or be eligible for same. Preventive teaching and research experience required. 4. Mainly Family Practice out-patient service work with one-to-one teaching of residents and final year undergraduates. Time for research activities will also be provided. 5. Commensurate with experience and qualifications. 6. Dr. D.H. Johnson, Head Department of Family and Community Medicine, Sunnybrook Medical Centre, 2075 Bayview Avenue, Toronto, Ontario, M4N 3M5. 7. July 1, 1979. 8. April 30, 1979.

UNIVERSITY OF BRITISH COLUMBIA. Department of Medicine. Clinical Epidemiologist/Health Care Researcher -

New position in a University Department of Medicine. Applicant should be a qualified Internist who has training in Health Care Research and Clinical Epidemiology with emphasis on methodology, experimental design, and statistical analysis. Areas of interest include hospital-related medical decision making, cost-effectiveness analysis, automated medical information systems, and quality assurance. Send curriculum vitae to: Head, University of British Columbia Department of Medicine, c/o Vancouver General Hospital, 10th and Heather Streets, Vancouver, B.C., Canada - V5Z 1M9.

UNIVERSITY OF TORONTO. Faculty of Medicine. 1. Department of Ophthalmology. 2. Research Fellow in Retinitis pigmentosa. 3. M.D. or Ph.D. and should have background to a principal in investigations on retinitis pigmentosa. 4. Areas of study may include chemical analysis related to patients, micro-anatomic examination of retinal structures in man and animals, cellular biology as it may relate to the disease. Private funding available. 5. Commensurate with experience and qualifications. 6. Mrs. I. McKone, Department of Ophthalmology, University of Toronto, 1 Spadina Crescent, Room 115, Toronto, Ontario M5S 2J5. 7. Effective date of appointment - July 1, 1979. 8. When position is filled.

UNIVERSITY OF TORONTO. Faculty of Medicine. Department of Obstetrics and Gynaecology requires an individual with an interest in Perinatology or Oncology. Rank appropriate with past experience and position as a member of the Faculty of the University of Toronto, Active Staff Appointment in the Department at the Toronto Western Hospital. An F.R.C.S. (C) is required. The Position will involve administration as well as teaching of undergraduate and postgraduate students and will involve also a limited private practice. Salary will be commensurate with University position and activities, part of which will be made up of private practice. Enquiries to: Dr. J. L. Harkins, Professor and Chairman, Department of Obstetrics and Gynaecology, University of Toronto, 92 College Street, Toronto, Ontario, M5G 1L2. Effective date of appointment - July 1, 1979. Closing date for receipt of applications - when filled.

UNIVERSITY OF TORONTO. Faculty of Medicine. 1. Department of Obstetrics & Gynaecology, St. Michael's Hospital, Toronto. 2. Assistant Professor Obstetrics & Gynaecology University of Toronto. 3. Active Staff, Department of Obstetrics & Gynaecology St. Michael's Hospital. 4. Specialist Certificate in Obstetrics & Gynaecology, Minimum of 2 years additional training in Reproductive Endocrinology. 5. Teaching, Practice, Participate in research with two full time Ph.D.s. 6. Basic University salary commensurate with rank. Additional private practice income. 7. Applications to: Dr. P.F. Beirne, Department of Obstetrics & Gynaecology, St. Michael's Hospital, Toronto. 8. Date of appointment 1 July 1979. 9. When filled.

UNIVERSITY OF TORONTO. Department of Medicine. Experienced Medical Oncologist to serve as a senior physician at the Ontario Cancer Institute. The appointee will be involved in teaching undergraduates, direct the clinical oncology training program and develop a major research program. Academic rank, Associate Professor. Salary according to experience. Starting date 1 July 1979. Apply with curriculum vitae and names of three referees to: Dr. D.E. Bergsagel, Chief of Medicine, Ontario Cancer Institute, 500 Sherbourne Street, Toronto, Ontario M4X 1K9.

UNIVERSITY OF SASKATCHEWAN. College of Medicine. Department of Pharmacology. Assistant Professor in Pharmacology, University of Saskatchewan. Applicants should possess a Ph.D. in Pharmacology or an M.D. plus at least two years postdoctoral research experience, and must have a strong interest in both teaching and research. Inquiries should be directed to: Dr. G. E. Johnson, Professor and Head, Department of Pharmacology, University of Saskatchewan, Saskatoon, Saskatchewan, S7N 0W0.

UNIVERSITY OF CALGARY. Faculty of Medicine. Division of Pharmacology & Therapeutics. The Faculty of Medicine, The University of Calgary, Calgary, Alberta, Canada, invites applications for a position as an Assistant Professor, commencing

September 1, 1979. Applicants will be expected to teach pharmacology to medical and graduate medical science students, and to conduct an active research programme. Priority will be given to those individuals with an expertise in the areas of neuropharmacology, molecular pharmacology, clinical pharmacology, cardiac electrophysiology or toxicology. Applications, including an up-to-date curriculum vitae plus three names of suggested referees should be forwarded to: Dr. S.H. Roth, Acting Head, Division of Pharmacology & Therapeutics, Faculty of Medicine, The University of Calgary, Calgary, Alberta T2N 1N4.

UNIVERSITY OF TORONTO. Faculty of Medicine. 1. Department of Nutrition and Food Science. 2. Associate Professor (Human Nutrition - with emphasis on the clinical aspects of human nutrition). 3. Candidates should have experience in clinical research in areas of gastroenterology, hepatology, diabetology, cardio-vascular disease and surgery and in the development of nutritional therapy. Qualifications should include a Ph.D. or equivalent in a basic science relevant to nutrition. Medical qualification with clinical experience in internal medicine and one or more of its major subspecialties is strongly preferred. Experience in the supervision of M.Sc. and Ph.D. students is a definite asset. 4. Teaching duties will relate to medical students, advanced undergraduate science students and graduate students. The incumbent will be expected to establish a strong research programme, embracing both laboratory and clinical projects. 5. Salary commensurate with qualifications and experience. 6. Dr. G. Beaton, Professor and Chairman, Department of Nutrition and Food Science, Fitzgerald Building, Faculty of Medicine, University of Toronto, Toronto, Ontario, M5S 1A8. 7. July 1, 1979. 8. When candidate selected.

UNIVERSITY OF TORONTO. Faculty of Medicine. 1. Department of Surgery. 2. Staff Surgeon - General Surgery, Toronto Western Hospital. 3. M.D./FRCS (c) or equivalent. 4. Teaching at all levels, investigation in area of interest plus regular service commitments. 5. \$18,000.00 p.a. approximately. 6. Dr. Donald R. Wilson, Surgeon-in-Chief, Toronto Western Hospital, 399 Bathurst Street, Toronto, Ontario. 7. July 1, 1979. 8. April 30, 1979.

UNIVERSITY OF BRITISH COLUMBIA. School of Rehabilitation Medicine. Applications are invited for a position in the physiotherapy division for July 1st, 1979. Preference will be given to candidates with graduate degrees and teaching experience particularly in Neurological conditions. Applications and inquiries should be forwarded to the Director of the School of Rehabilitation Medicine, Room 327, Instructional Resources Centre, University of British Columbia, 2075 Wesbrook Place, Vancouver, B.C., V6T 1W5.

METALLURGY/ MINERALOGY

MCMASTER UNIVERSITY. Department of Metallurgy and Materials Science. The Department of Metallurgy and Materials Science, McMaster University, invites applications for the position of Assistant Professor, (to be filled before September 1979). The appointment will be contractually limited for 2 or 3 years, renewable. The position involves teaching at the undergraduate and graduate levels, and development of research in areas compatible with departmental interests. Candidates should have a Ph.D. and a background in one of the following areas: Materials Science, with emphasis on the physical properties of ceramics and glasses; Process modelling in Metallurgy/Materials Science. Applications, including a curriculum vitae, a list of publications, and the names of three referees who have been requested to send letters of recommendation, should be addressed to: Dr. G. R. Purdy, Chairman, Department of Metallurgy and Materials Science, McMaster University, Hamilton, Ontario, L8S 4L7.

UNIVERSITY OF MANITOBA. Department of Earth Sciences. Postdoctoral or research associate position in mineralogy

<p>with responsibility for operating the Department's electron microprobe and preferably also X-ray diffraction equipment. The candidate's research interests should be in rock-forming silicate minerals. Some teaching of mineralogy / crystallography will also be required. Stipend will be at the NSERC postdoctoral level plus additional for teaching; research associate somewhat higher. Appointment anytime up to September 1979, initially for one year and likely continuing on a term basis. Please send applications with curriculum vitae and names of two referees to Dr. R.B. Ferguson, Department of Earth Sciences, University of Manitoba, Winnipeg, Manitoba, R3T 2N2.</p>	<p>tion courses at all levels including graduate. Particular emphasis in choral teaching at the junior high school level. Appointment contingent upon approval of budget. Doctoral degree preferred, but holders of Master's degree will be considered. Teaching experience in the public schools is essential. Letter of application, CV, and placement dossier to: Dr. S.G. Finn, Head, Department of Music, University of Calgary, Calgary T2N 1N4.</p> <p>BRANDON UNIVERSITY. School of Music. 1. Applications are invited for a nine-month sabbatical replacement position at the rank of Lecturer or assistant Professor. 2. Qualifications: Master of Music with demonstrated ability as a performer and some teaching experience. 3. Duties: Undergraduate clarinet instruction, performance as soloist and in faculty ensembles and teaching of first-year theory and musicianship. 4. Salary: subject to qualifications and experience. 5. Send letters of application, references and curriculum vitae to: Gordon C. Macpherson, Acting Director, School of Music, Brandon University, Brandon, Manitoba, R7A 6A9. 6. Date of appointment: September 1, 1979. 7. Closing date: When position filled.</p>	<p>ing of children in the acute care setting are essential. Salaries will be commensurate with education and experience. Approximately 210 students, well equipped self-instructional laboratory in Nursing, new community hospital. Write: Dean, Faculty of Nursing, University of New Brunswick, P.O. Box 4400, Fredericton, N.B., E3B 5A3.</p> <p>THE UNIVERSITY OF BRITISH COLUMBIA. School of Nursing. Applications are invited for teaching positions in undergraduate and graduate programs. Master's or higher degree and experience in clinical field required. Positions open in July, 1979. Candidates must be eligible for registration in B.C. Send resume to: Dr. Marilyn Willman, Director, School of Nursing, University of British Columbia, 2075 Wesbrook Place, Vancouver, B.C., Canada, V6T 1W5.</p> <p>UNIVERSITÉ DE SHERBROOKE. Département des sciences infirmières. Le Département des sciences infirmières de l'Université de Sherbrooke demande un professeur à temps plein pour le 1er juin 1979. Fonctions: assumer une tâche habituelle d'enseignement; assumer la responsabilité du cours "Nursing communautaire"; assurer l'encadrement pédagogique des étudiants; participer aux activités d'administration du programme; participer à des activités de recherche; répondre à des demandes de services à la collectivité. Exigences: infirmière(e) possédant un diplôme de 2e ou de 3e cycle et inscrit(e) au tableau de l'Ordre des infirmières et infirmiers du Québec; compte tenu du type de clientèle, être familier(ère) avec les méthodes d'aide à l'apprentissage appropriées à des adultes. Faire parvenir son curriculum vitae avant le 15 avril 1979 à la Responsable du programme, Sciences infirmières, C.H.U.S., Sherbrooke, Québec J1H 5N4.</p>	<p>Genetics, Health Sciences Centre, 700 William Avenue, Winnipeg, Manitoba, R3E 0Z3.</p>
<p>MODERN LANGUAGES</p>			<p>PATHOLOGY</p>
<p>TRENT UNIVERSITY. Department of Modern Languages and Literatures. The Department of Modern Languages and Literatures seeks half-time sessional instructor for 1979-80. Ph.D. required. Duties will include responsibility for course on classical French theatre. Salary based on the floor of the Assistant Professor scale. Inquiries should be addressed to Dr. Peter Royle, Chairman, Department of Modern Languages and Literatures, Trent University, Peterborough, Ontario, K9J 7B8.</p>	<p>NATURAL SCIENCES</p>	<p>UNIVERSITY OF ZAMBIA. School of Natural Sciences. Applications are invited from suitably qualified persons for positions of: Lecturer / Senior Lecturer / Associate Professor in various Departments in the School. Applicants must have a Ph.D. degree or equivalent. Applicants for senior positions must have considerable University lecturing experience. Biology Department: Biology Department has two posts to fill namely, a) An experienced cytologist with interests in phanerogamic botany, plant ecology and the development of the Departmental Herbarium. b) A vertebrate biologist with research interests in mammal studies in the National Parks and the teaching of vertebrate anatomy and comparative anatomy. Chemistry Department: There are five vacant posts in Chemistry. Preference will be given to candidates specialized in Organic Chemistry but other specializations will also be considered. Mathematics Department: There are five vacancies in Mathematics Department as follows: a) Mathematical Statistics and Operations Research. b) Real and Complex Analysis and Functional Analysis. c) Algebra. d) Continuum Mechanics and Theoretical Physics. Physics Department: There are two vacancies in the Lecturer / Senior Lecturer level in Physics. Candidates must have a background in Nuclear Medicine or General Nuclear Physics or Geophysics. Land Resources Survey: There is one vacancy for a Lecturer / Senior Lecturer in Land Resources Survey. Applicants should possess a first degree in Agriculture, Biology, Geography or Geology and preferably a higher degree in Land Resources Survey or an allied field. Successful applicants will be expected to teach the M.Sc. programme. Salary scales: Professor: K8616 x 204 - 8880 x 255 - 9135; Associate Professor: K8232 x 384 - 8616; Senior Lecturer: K7608 x 204 - 8016; Lecturer Grade I: K6540 x 216 - 6972 x 228 - 7200; Lecturer Grade II: K5904 x 204 - 6108 x 216 - 6324. Other Conditions: Passages and baggage allowance will be paid. The University supplies housing and hard furnishing and return passages to country of domicile every two years (90 days leave). Other details of contract are available from the Registrar. Detailed applications (two copies) supported by certified copies of certificates and naming a minimum of three referees is required. Applications should be addressed to the Registrar, University of Zambia, P.O. Box 2379, Lusaka.</p>	<p>UNIVERSITY OF MANITOBA. Pathology Department. Experimental Pathologist. An experimental pathologist with interest in neoplasia and particular emphasis on cancer cell chemotaxis is required. The appointment will be at the Assistant Professor level and it is anticipated that the successful candidate will have recently completed his formal training and now wishes to establish himself as an independent investigator. Salary and conditions of work are competitive with other Canadian Universities. Canadian citizens, landed immigrants and others eligible for employment in Canada (on a ministerial permit) at the time of application are especially encouraged to apply. Apply to: Dr. William M. Thurlbeck, Professor & Head, Department of Pathology, University of Manitoba, Faculty of Medicine, 700 William Avenue, Winnipeg, Manitoba, R3E 0Z3.</p> <p>UNIVERSITY OF TORONTO. Department of Pathology. Postdoctoral fellowships are available for research in chemical carcinogenesis. Experience is required in at least one of the following fields: biochemical - morphologic approaches in the development of cancer; models for the sequential analysis of carcinogenesis; mechanisms of cancer induction with chemicals. Salary \$12,600 to \$15,600 dependent upon qualifications. Applications with curriculum vitae and the names and addresses of three references should be sent to Dr. Emmanuel Farber, Chairman, Department of Pathology, 100 College Street, Toronto, Ontario, M5G 1L5.</p>
<p>MUSEUM</p>			<p>PHARMACY</p>
<p>MCGILL UNIVERSITY. Redpath Museum. Technician with BSc or MSc in Geology or Biology. Knowledge of paleontology, the anatomy and classification of plants and animals, fossil and living. Responsible for the organization and cataloguing of the fossil collections which are used for teaching and research; assist with preparation of exhibits and demonstrations in geology and biology courses. Required as soon as possible. Salary range \$11,957 to \$16,740 p.a. Apply with curriculum vitae and the names of two referees to: The Director, Redpath Museum, McGill University, 859 Sherbrooke Street West, Montreal, Québec, H3A 2K6, Canada.</p>		<p>OCCUPATIONAL THERAPY</p>	<p>THE UNIVERSITY OF MANITOBA. Faculty of Pharmacy. Applications, including curriculum vitae and names of three referees, are invited for faculty positions in the clinical pharmacy area. Candidates should have a Pharm. D. or other equivalent qualification with training and experience in clinical pharmacy. Teaching duties will include clinical pharmacy courses, and opportunities are available for research and graduate; there will be involvement in the fourth year clinical pharmacy program in hospitals; joint appointments can be arranged. Salary and rank commensurate with experience and qualifications. Canadian citizens, landed immigrants and others eligible for employment in Canada at the time of application are especially encouraged to apply. Positions available July 1st, 1979. Send correspondence to: Dean J.R. Murray, Faculty of Pharmacy, University of Manitoba, Winnipeg, Manitoba, R3T 2N2.</p>
<p>MUSIC</p>			<p>PHILOSOPHY</p>
<p>MEMORIAL UNIVERSITY OF NEWFOUNDLAND. Department of Music. The Department of Music invites applications for a temporary appointment effective September 1, 1979 to replace a faculty member on leave. Qualifications: Master's degree or equivalent with experience in choral conducting and teaching. Duties: Conductor of University choral ensembles, teaching of related courses in choral music. Some teaching of music history or theory. Salary and rank according to qualifications and experience. Closing date: April 30 or when position is filled. Applicants should submit a curriculum vitae and arrange for three letters of reference to be mailed directly to: D. F. Cook, Head, Department of Music, Memorial University of Newfoundland, St. John's, Newfoundland, A1C 5S7.</p>		<p>UNIVERSITY OF WESTERN ONTARIO. Program in Occupational Therapy. Faculty positions available July 1, 1979, Program in Occupational Therapy, University of Western Ontario. Bachelor's degree required; Master's degree or higher preferred. Salary and rank commensurate with experience. Position 1: To teach in the areas of cerebral palsy and mental retardation and to assist with field work experience. Prefer therapist with well rounded paediatric background. Position 2: To teach in the areas of kinesiology, biomechanics and ergonomics. Must be well versed in clinical biofeedback and willing to continue recently established research ventures in biofeedback usage in occupational therapy. Position 3: To coordinate clinical field work experience of undergraduate students and to assist in clinical teaching. Generalist required with a minimum of five years experience. Position dependent on the availability of funds. Send resume to Director, Program in Occupational Therapy, University of Western Ontario, London, Ontario, N6A 5C1.</p>	<p>UNIVERSITY OF SASKATCHEWAN. Department of Philosophy. 1. Assistant Professor with term. 2. Ph.D. required. 3. Teach three undergraduate classes. 4. (Salary) \$15,500. 5. Full curriculum vitae including transcripts and three letters of reference should be sent to: Dr. L.G. Miller, Department of Philosophy, University of Saskatchewan, Saskatoon, Saskatchewan S7N 0W0. 6. Term appointment (sabbatical leave replacement) for 10 months commencing September 1, 1979. 7. (Deadline for applications). When position is filled.</p>
<p>SIMON FRASER UNIVERSITY. Centre for the Arts. Simon Fraser University expects to appoint a Lecturer in Music, to begin teaching duties in September 1979 for a two year term. Primary duties of the position are to teach introductory history, theory, and musicianship. Additional skills in performance and composition are desirable. The qualified candidate should hold a Masters Degree in Music or equivalent and have a strong interest in contemporary music. Candidates should be prepared to assist in the development of an emerging music program within an interdisciplinary arts department. The current salary base for the Lecturer rank is \$18,604. Simon Fraser is particularly interested in receiving applications from Canadians or those with substantial Canadian experience. Letters of application should be sent to Professor Evan Alderson, Director, Centre for the Arts, Simon Fraser University, Burnaby, B.C. (V5A 1S6).</p> <p>UNIVERSITY OF CALGARY. Department of Music. Applications are invited for a position starting September 1, 1979. Duties will include teaching music educa-</p>	<p>NURSING</p> <p>UNIVERSITY OF NEW BRUNSWICK. Faculty of Nursing. Positions available July 1, 1979 (subject to budgetary approval), for two teachers in U.N.B. baccalaureate program in Nursing. Areas are Community Nursing and Co-ordinator of Nursing Care of Children. Applicants should be able to qualify for rank of Assistant or Associate Professor. For the co-ordinator position, teaching experience and experience in nursing of children in the acute care setting are essential. Salaries will be commensurate with education and experience. Approximately 210 students, well equipped self-instructional laboratory in Nursing, new community hospital. Write: Dean, Faculty of Nursing, University of New Brunswick, P.O. Box 4400, Fredericton, N.B., E3B 5A3.</p>	<p>PAEDIATRICS</p> <p>THE UNIVERSITY OF MANITOBA. Department of Paediatrics. Division of Genetics. Two Positions Available: The University of Manitoba, Division of Genetics, Faculty of Medicine and Health Sciences Centre requires an associate and/or assistant professor in areas of Clinical Genetics - M.D., F.R.C.P. or equivalent in paediatrics. At least 3-4 years experience in Clinical Genetics / Genetic Counselling and Research to head Section of Clinical Genetics, Health Science Centre, and a position in Basic Genetics - Ph.D. or M.D. with research interests in the area of Somatic Cell Genetics, Population Genetics or Immunogenetics. Some experience in Graduate and Undergraduate Teaching required. The salary for each will be determined by qualifications and experience. Both appointments to commence on July 1st, 1979 or as soon as possible thereafter. Send C.V. and references as soon as possible to Dr. John L. Hamerton, Division of</p>	<p>PHOTOGRAPHY</p> <p>THE NOVA SCOTIA COLLEGE OF ART AND DESIGN. Design Division. Assistant or Associate Professor of Photography to instruct students in photography for visual communication design (graphic design) program and to take responsibility for the management of the college photography laboratory and studio. Require substantial</p>

<p>professional experience. Teaching experience is desirable. Position begins July 1, 1979. Write, with curriculum vitae, examples of work, and names of references, to Frank Fox, Chairman, Design Division, Nova Scotia College of Art and Design, 5163 Duke Street, Halifax, Nova Scotia B3J 3J6.</p>	<p>teaching. Salary: Commensurate with appointees' qualifications. Starting date: August 1, 1979. Deadline for Applications: April 30, 1979. Applications including curriculum vitae and references should be addressed to: Dr. Roy L. Bishop, Head, Department of Physics, Acadia University, Wolfville, Nova Scotia, B0P 1X0.</p>	<p>and Comparative Politics and/or International Politics; second vacancy in Public Administration and/or Local Government. Positions will involve teaching and research. Preference for Canadian citizens or landed immigrants, and completed Ph.D. Appointments at Assistant Professor rank or above; salary negotiable within established guidelines. Appointments will commence July 1, 1979, if possible, for fall term. Applications, with detailed curriculum vitae, supporting documentation, and names of three referees, may be sent to Professor R.E. Garland, Chairman, Division of Social Science, University of New Brunswick, P.O. Box 5050, Saint John, New Brunswick, E2L 4L5.</p>	<p>desirable. The current salary floors of the University are as follows: Lecturer \$16,640., Assistant Professor \$20,800. The appointment commences on July 1, 1979. Applicants should send curriculum vitae and the names of three referees to Dr. T.A. Judson, Chairman, Division of Social Sciences, Bishop's University, Lennoxville, Quebec, J1M 1Z7.</p>
<p>PHYSICAL EDUCATION</p>	<p>UNIVERSITY OF BRITISH COLUMBIA. Physics Department. Faculty rank open. Applications are invited for a temporary position which is expected to be available September 1, 1979 in one of the following fields: Experimental Physics: - intermediate energy nuclear physics, - modern optics. Theoretical Physics: - elementary particle, - molecular physics, - solid state. Salary depends on qualifications. Appointment for 1 year, renewable for one additional year. Closing date for applications is May 31st, 1979. All correspondence should be addressed to: Professor G. Jones, Department of Physics, University of British Columbia, 2075 Wesbrook Place, Vancouver, B.C., V6T 1W5.</p>	<p>PSYCHIATRY</p>	<p>CONCORDIA UNIVERSITY. Psychology Department. The Psychology Department anticipates a possible opening at the level of Assistant or Associate Professor in the area of Clinical Psychology and/or Counselling related to the rehabilitation of the sensorily handicapped, especially the blind or visually handicapped. Applicants should have had considerable experience in working with the visually and/or auditorily handicapped. Duties will include graduate teaching in the area of psychological assessment of the visually handicapped, supervision of Masters and Doctoral students in practicum counselling of the visually handicapped and thesis research, and general participation in the graduate programme. Duties also include undergraduate teaching, preferably but not necessarily, in the areas of human motivation and personality. Applicants should send their curriculum vitae and three letters of reference to:- The Chairman, Department of Psychology, Concordia University, Sir George Williams Campus, The Hall Building, 1455 de Maisonneuve West, Montreal, Quebec H3G 1M8.</p>
<p>DALHOUSIE UNIVERSITY. School of Physical Education, Physical Education Division. 1. Assistant or Associate Professor in the area of biomechanics, preferably with a strong background in statistics and research design. 2. Earned doctorate preferred. 3. Teach undergraduate and graduate courses. Make scholarly and creative contributions. Develop research programs. Act as research advisor to graduate students. 4. Salary commensurate with qualifications and experience. 5. Position dependent on budget approval. 6. First consideration given to applicants presently eligible for employment in Canada. 7. Letter of application, resume, names and addresses of referees to Dr. T. L. Maloney, Acting Director, School of Physical Education, Dalhousie University, Halifax, Nova Scotia, Canada, B3H 3J5.</p>	<p>PHYSIOLOGY</p>	<p>QUEEN'S UNIVERSITY. Department of Psychiatry/Beechgrove Regional Children's Centre, Kingston. A geographical full time faculty position is available at the level of Lecturer / Assistant Professor, depending upon qualifications and experience. Fellowship in the Royal College of Physicians (Canada) in psychiatry or the equivalent is necessary. The academic position is associated with the teaching and research program of the Department, principally in the Division of Child Psychiatry. The clinical appointment is in the Adolescent Service of Beechgrove Regional Children's Centre. Adequate training and clinical experience in adolescent psychiatry is necessary, and a research interest in the field of adolescent psychiatry, especially in adolescent psychotherapy is desirable. Please forward application together with curriculum vitae and names of three referees to: Dr. B. J. McConville, Professor, and Chairman, Division of Child Psychiatry, Department of Psychiatry, Queen's University, Kingston, Ontario K7L 3K1, Applications close April 30, 1979.</p>	<p>MEMORIAL UNIVERSITY OF NEW-FOUNDLAND. Department of Psychology. Social/Clinical psychologist, rank open. Must be qualified to teach courses in Clinical Psychology and be able to contribute to an established applied social research programme. Must have an established research programme or extensive graduate experience in the field of Behavioural Medicine. Salary in accordance with rank and qualifications. Starting date is 1 September 1979. Apply to Dr. G. R. Skanes, Head, Department of Psychology, Memorial University of Newfoundland, St. John's, Newfoundland, Canada, A1B 3X9. Position subject to availability of funds.</p>
<p>DALHOUSIE UNIVERSITY. School of Physical Education, Health Education Division. 1. Assistant or Associate Professor, school and community health education strategies. 2. Earned doctorate preferred. 3. Teach undergraduate and graduate courses. Make scholarly and creative contributions. Develop research programs. Act as research advisor to graduate students. 4. Salary commensurate with qualifications and experience. 5. Position dependent on budget approval. 6. First consideration given to applicants presently eligible for employment in Canada. 7. Letter of application, resume, names and addresses of referees to Dr. T. L. Maloney, Acting Director, School of Physical Education, Dalhousie University, Halifax, Nova Scotia, Canada, B3H 3J5.</p>	<p>UNIVERSITY OF SASKATCHEWAN. Department of Physiology. Applications are invited for an appointment as Assistant Professor in the Department of Physiology. Applicants must have an M.D., D.V.M. or Ph.D. degree with at least two years of postdoctoral experience. Experience in renal or gastrointestinal physiology is desirable. Responsibilities include teaching of undergraduate and graduate students and the establishment of an independent research program. The appointment will be tenurable. Salary will be dependent on qualifications and experience. The present salary range starts at \$17,488. Send applications (including complete curriculum vitae and the names of three references) to Dr. J.W. Phillis, Head, Department of Physiology, College of Medicine, University of Saskatchewan, Saskatoon, Canada, S7N 0W0.</p>	<p>QUEEN'S UNIVERSITY. Department of Psychiatry/Beechgrove Regional Children's Centre, Kingston. A geographical full time position is available at the level of Associate Professor/Professor, depending upon qualifications and experience. Fellowship in the Royal College of Physicians (Canada) in psychiatry or equivalent is necessary. The academic position is associated with the teaching and research program of the Department, principally in the Division of Child Psychiatry. The clinical appointment will be as Assistant Clinic Director in charge of Children's Services in the Beechgrove Regional Children's Centre. Adequate training and considerable clinical experience in Child psychiatry is essential, as well as research interest and experience. Please forward application together with curriculum vitae and names of three referees to: Dr. B.J. McConville, Professor, and Chairman, Division of Child Psychiatry, Department of Psychiatry, Queen's University, Kingston, Ontario K7L 3K1. Applications close April 30, 1979.</p>	<p>WILFRID LAURIER UNIVERSITY. Department of Psychology. Two social scientists sought by developing interdisciplinary Master's Programme in Social-Community Psychology. The programme has a particular interest in primary prevention work in Health and Education Systems. One position is for an individual with theory and research experience in program evaluation; the other is for a person whose background and experience is in the area of Social Structure. One candidate should be a senior person capable of serving as a department chairman. Direct inquiries to: Chairman, Department of Psychology, Wilfrid Laurier University, Waterloo, Ontario N2L 3C5.</p>
<p>QUEEN'S UNIVERSITY. School of Physical and Health Education. The School of Physical and Health Education, Queen's University, offers an appointment in the area of biomechanics. Applicants should hold a Ph.D. in biomechanics; those with successful post-doctoral teaching and research experience will receive first consideration. Duties will include teaching biomechanics to undergraduates, supervising graduate students at the M.Sc. level and undertaking appropriate research activities. In addition, the candidate should be capable of teaching at the undergraduate level in one of the following areas — motor learning, adaptive physical education, or growth and development. Other duties in regard to activities teaching and/or coaching may be assigned according to the candidate's interests. The appointment is being offered on a two-year non-renewable basis at the rank and salary commensurate with experience. The application deadline is April 15, 1979. Applications including curriculum vitae and names of three referees should be submitted to the Director, School of Physical and Health Education, Queen's University, Kingston, Ontario.</p>	<p>PLANT SCIENCE</p>	<p>UNIVERSITY OF SASKATCHEWAN. Department of Psychiatry. A position is available in the Department of Psychiatry, University of Saskatchewan, for an Academically oriented psychiatrist with an interest in Epidemiology or Clinical Research. This position will involve clinical and teaching responsibilities in the Department of Psychiatry. Saskatchewan has an international reputation for innovative psychiatric programmes. The Department of Psychiatry has made a significant contribution to these. The availability of extensive computerized data systems will be especially attractive to applicants with research interests. The appointment will be effective July 1st, 1979. Salary commensurate with qualifications and experience. Apply to: Dr. I.M. McDonald, Department of Psychiatry, University of Saskatchewan, Saskatoon, Saskatchewan, S7N 0W0.</p>	<p>CONCORDIA UNIVERSITY. Department of Education. Concordia University Department of Education invites applications for a new faculty post in Early Childhood Education, anticipated for 1979. Qualifications required are Ph.D. with research interests in one or more of the following: teacher training; learning (0-8 years). Responsibilities include teaching at undergraduate and graduate levels, supervision of teaching practice and supervision of theses. Effective date June 1, 1979 or as soon as possible after that date. Salary negotiable, based on experience and qualifications. Applications with curriculum vitae and names of referees should be submitted to: Arpi Hamalian, Chairman, Department of Education, Concordia University, 1455 de Maisonneuve Blvd. West, Montreal, Quebec, Canada, H3G 1M8.</p>
<p>PHYSICS</p>	<p>POLITICAL SCIENCE</p>	<p>PSYCHOLOGY</p>	<p>CONCORDIA UNIVERSITY. Department of Education. Concordia University Department of Education invites applications for a new faculty post in Educational Technology, anticipated for 1979. Qualifications required are a Ph.D. or equivalent with active research and teaching interests in one or more of: instructional psychology; development and evaluation of educational materials (eg TV, film, computer-based learning, educational games); educational systems analysis and planning; self-instructional systems; distant study; industrial training; communication studies. Responsibilities include teaching primarily at the graduate level, research and development, theses supervision and Educational Technology internship supervi-</p>
<p>MEMORIAL UNIVERSITY OF NEW-FOUNDLAND. Regional College at Corner Brook. Department of Physics. 1. Undergraduate teaching position. 2. To teach Physics at the first and second year university levels. 3. The College offers a full range of courses at the first and second year levels. 4. Rank: Associate or Assistant Professor; Salary: Dependent upon qualifications and experience. 5. Curriculum vitae and names of three referees to: Mr. Ian Mennie, Co-ordinator, Department of Physics, Regional College at Corner Brook, University Drive, Corner Brook, Newfoundland A2H 6P9. 6. Academic Year 1979-80.</p>	<p>UNIVERSITY OF LETHBRIDGE. Department of Political Science. 1. Assistant Professor. 2. Applicants should have a Ph.D. completed or near completion. 3. Duties include undergraduate teaching and research. 4. Salary Scale ('78-'79) Assistant Professor \$19,283 - \$24,686. 5. Applications, including a curriculum vitae, transcripts and three letters of reference, should be sent to: Dr. Peter McCormick, Chairman, Department of Political Science, University of Lethbridge, 4401 University Drive, Lethbridge, Alberta T1K 3M4. 6. A terminal appointment of up to one year in the areas of Canadian Government and Political Behavior. 7. Deadline: 30 April 1979.</p>	<p>BISHOP'S UNIVERSITY. Department of Psychology. Applications are invited for a one year sabbatical replacement position. The post's duties will include teaching the equivalent of three full-year undergraduate courses, including one course in Social Psychology and one or both of Perception and Ethology. Doctorate in psychology is</p>	<p>ACADIA UNIVERSITY. Department of Physics. Applications are invited for two positions at the rank of assistant professor: (1) A ten month sabbatical replacement; (2) Subject to budgetary restraint, a probationary appointment for an initial term of 3 years. Qualifications: Ph.D. or equivalent by October 1979. Duties: Undergraduate</p>
<p>ACADIA UNIVERSITY. Department of Physics. Applications are invited for two positions at the rank of assistant professor: (1) A ten month sabbatical replacement; (2) Subject to budgetary restraint, a probationary appointment for an initial term of 3 years. Qualifications: Ph.D. or equivalent by October 1979. Duties: Undergraduate</p>	<p>UNIVERSITY OF NEW BRUNSWICK. Division of Social Science. Political Science. University of New Brunswick at Saint John, Division of Social Science. Subject to budgetary approval, two positions to be filled in the undergraduate Political Science program. One vacancy in Canadian</p>	<p>PSYCHOLOGY</p>	<p>CONCORDIA UNIVERSITY. Department of Education. Concordia University Department of Education invites applications for a new faculty post in Educational Technology, anticipated for 1979. Qualifications required are a Ph.D. or equivalent with active research and teaching interests in one or more of: instructional psychology; development and evaluation of educational materials (eg TV, film, computer-based learning, educational games); educational systems analysis and planning; self-instructional systems; distant study; industrial training; communication studies. Responsibilities include teaching primarily at the graduate level, research and development, theses supervision and Educational Technology internship supervi-</p>

sion. Effective date June 1, 1979 or as soon as possible after that date. Salary negotiable based on experience and qualifications. Applications with curriculum vitae and names of referees should be submitted to: Arpi Hamalian, Chairman, Department of Education, Concordia University, 1455 de Maisonneuve Blvd. West, Montreal, Quebec, Canada, H3G 1M8.

UNIVERSITY OF WINDSOR. Department of Psychology. The Department of Psychology at the University of Windsor requires a Developmental Psychologist for a one-year period (July 1, 1979 - June 30, 1980). This person should have the doctoral degree in Psychology, with a specialization in the area of Developmental Psychology. She/he will be required to teach one undergraduate and one graduate course and to assist in graduate research supervision. This position is subject to budgetary approval. Applicant should forward a curriculum vitae, including the names of three referees, to: Dr. Henry L. Minton, Head, Department of Psychology, University of Windsor, Windsor, Ontario, N9B 3P4.

CONCORDIA UNIVERSITY. Psychology Department. The Psychology Department anticipates one or more openings at the level of Assistant or Associate Professor in the following areas: a) Clinical Psychology. Background in development of graduate clinical training. Candidate should be capable of making a significant contribution to the clinical activities of the Department's Applied Psychology Centre. Candidates who also have an active ongoing research program capable of making a contribution to graduate training would be regarded as most desirable. Responsibilities: Graduate clinical supervision, undergraduate and graduate teaching, research supervision. b) Sensory Deficits. Background in clinical or counselling areas related to the rehabilitation of the sensorily handicapped, especially the blind or visually handicapped. Applicants should have had considerable experience in working with the visually and/or auditorily handicapped. Duties include graduate teaching in the area of psychological assessment of the visually handicapped, supervision of Masters and Doctoral students in practicum counselling of the visually handicapped and thesis research, and general participation in the graduate program. Duties also include undergraduate teaching, preferably, but not necessarily, in the areas of human motivation and personality. c) Nutrition. Research background, preferably with applied experience, in the area of nutrition related problems. Duties include graduate and undergraduate teaching, thesis research supervision and, if appropriate, clinical supervision. The Department operates an Applied Psychology Centre that could provide a setting for research and treatment. d) The Department also anticipates at least one leave replacement position for 1979/80: area of specialty is open. Candidates should forward curriculum vitae, three letters of reference and publication reprints to: Dr. Norman Segalowitz, Chairman, Psychology Department, Concordia University, Arts and Science Faculty, 1455 de Maisonneuve West, Montreal, Quebec, H3G 1M8, Canada.

BISHOP'S UNIVERSITY. Department of Psychology. Applications are invited for a one year sabbatical replacement position. The posts duties will include teaching the equivalent of three full years undergraduate courses including one course in Social Psychology and one or both of Perception and Ethology. Doctorate in Psychology is desirable. The current salary floors of the University are as follows: Lecturer \$16,640, Assistant Professor \$20,800. The appointment commences on July 1, 1979. Applicants should send curriculum vitae and the names of three referees to Dr. T.A. Judson, Chairman, Division of Social Sciences, Bishop's University, Lennoxville, Québec J1M 1Z7.

UNIVERSITY OF NEW BRUNSWICK. Psychology Department. The Psychology Department at the University of New Brunswick anticipates approval of two positions for persons primarily interested in Applied Psychology. One is a tenure-track position, the other a one-year sabbatical replacement. The Applied Psychology programme at UNB has experienced rapid growth over the past few years. The Department expects to develop a Ph.D. programme in the near future. Individuals qualified to teach graduate courses in specialized areas of Applied Psychology and with graduate or undergraduate teaching interests in testing,

psychopathology or quantitative psychology are encouraged to apply. Priority will be given to persons with research and/or clinical experience in child psychopathology, learning and perceptual handicaps, individual and family therapy, or intervention strategies. Salary and rank will be commensurate with experience and University scales. Appointments are for July 1, 1979. Candidates who are presently eligible to work in Canada will be given first consideration. Applicants should send a vitae, and names of three referees; and, if applying for the tenure-track position, a description of research space and resource requirements, to: Dr. H.H. Mikaelian, Chairman, Psychology Department, University of New Brunswick, Fredericton, New Brunswick E3B 5A3.

UNIVERSITY OF LETHBRIDGE. Department of Psychology. Postdoctoral Position in Physiological Psychology. Applications are invited for a postdoctoral position in physiological psychology in a laboratory run jointly by Ian Whishaw and Bryan Kolb. Areas of research include electrophysiological correlates of behaviour, development of behaviour, and functions of the neocortex. Salary at NRC rates. Applications to be sent to Dr. I.Q. Whishaw or Dr. B. Kolb, University of Lethbridge, Lethbridge, Alberta T1K 3M4.

RECREATION

UNIVERSITY OF WATERLOO. Department of Recreation. 1. Assistant or Associate Professor in Recreation Management. 2. Earned doctorate or its near completion in related discipline. 3. Ability to successfully supervise student theses and honor projects with a broad interdisciplinary view to graduate and undergraduate instruction and continued involvement and participation in professional organizations with a demonstrated competence and commitment to scholarship. 4. Assistant Professor (minimum \$17,500), Associate Professor (minimum \$22,700). Salary commensurate with qualifications and experience. 5. Dr. David Ng, Chairman, Department of Recreation, University of Waterloo, Waterloo, Ontario, N2L 3G1. 6. July, 1979. Subject to the availability of funds. 7. Until position filled. First consideration will be given to those applicants who at the time of application are legally eligible to work in Canada for the period covered by this position.

RELIGIOUS STUDIES

UNIVERSITY OF TORONTO. Department of Religious Studies. One or two year term appointment at the Assistant or Associate Professor rank in The Psychology of Religion. Qualifications: Ph.D. in Psychology; knowledge of various religions and cultures; research competence in the empirical investigation of the personal and social contexts of religious attitudes and experience; demonstrated teaching ability at the undergraduate level in the general psychology of religion and in the areas of research specialization potential or readiness for graduate instruction and supervision of research. Position available July 1, 1979. Application deadline is May 15, 1979. Send to Professor L. J. Elmer, Chairman, Department of Religious Studies, University of Toronto, 110 Charles Street West, Toronto, Ontario, M5S 1A1.

SLAVIC STUDIES

UNIVERSITY OF ALBERTA. Department of Slavic Languages. Applications are invited for the following positions: 1) Anticipated, tenurable Assistant Professorship beginning in July or August 1979. Ph.D., native or near-native fluency in Russian and specialization in syntax are required. Solid knowledge of Ukrainian highly desirable. Responsibilities include primarily undergraduate and graduate teaching and graduate supervision. Floor for Assistant is currently \$18,530. 2) A sessional, 8-month appointment beginning September 1, 1979, salary from \$12,788 to \$13,094. Responsibilities include primarily Ukrainian undergraduate language and literature courses with the possibility of graduate language teaching. Ph.D. or A.B.D., with

teaching experience, preferred. All positions are contingent on budgetary conditions. The University of Alberta is an equal opportunity employer. Send curriculum vitae and names of at least three referees by May 4, 1979 to: R. L. Busch, Acting Chairman, Department of Slavic Languages, University of Alberta, Edmonton, Alberta, T6G 2H1.

UNIVERSITY OF VICTORIA. Slavonic Studies (Russian). 1. The University of Victoria invites applications for a sessional replacement appointment in Russian Language, Literature, and Culture. The appointment is for the period September 1, 1979 to April 30, 1980. 2. Qualifications: Ph.D., or near completion. Teaching experience and native fluency in Russian essential for appointment. 3. Courses to be taught include: Russian Language, Culture, Literature and Cinema in the USSR. 4. Salary subject to qualifications and experience. 5. Applications, together with curriculum vitae and names of three referees should be sent to: Dr. A. Donskov, Chairman, Department of Slavonic Studies, University of Victoria, Victoria, B.C., Canada, V8W 2Y2. Applications are due no later than April 30, 1979.

SOCIAL WORK

UNIVERSITY OF WINDSOR. School of Social Work. Two additional faculty positions have been approved for the 1979-80 academic year. Responsibilities will be in both the 4-year BSW and one-calendar year MSW programs. Preference will be given to candidates holding post-Master's credential in Social Work, along with suitable academic and professional experience. For further information and application forms, please contact B. J. Kroeker, Director, School of Social Work, University of Windsor, Windsor, Ontario, N9B 3P4. Tel: 1-519-253-4232 ext. 453.

SOCIOLOGY/ ANTHROPOLOGY

MCGILL UNIVERSITY. Department of Sociology. The Department of Sociology is seeking an assistant professor for appointment September 1, 1979. Completed Ph.D. preferred. We are looking for a methodologist with superior competence in quantitative data analysis. Proven ability and commitment to teaching in this area will be an asset. Secondary fields open. Please write to Professor Maurice Pinard, Chairperson, Recruitment Committee, Department of Sociology, McGill University, 855 Sherbrooke St. W., Montreal, Quebec H3A 2T7, enclosing curriculum vitae, copies of 2 or 3 papers and names and addresses of 3 referees.

MCGILL UNIVERSITY. Department of Sociology. The Department of Sociology at McGill University is seeking a sociologist for a two-year contractually limited appointment at the assistant professor level, with a possibility of extension. Completed Ph.D. preferable. Areas desired include socialization, family and kinship, social psychology, industrial relations, organizations, sociology of mental health. Interested applicants may apply to Professor Maurice Pinard, Chairperson, Recruitment Committee, Department of Sociology, McGill University, 855 Sherbrooke Street W., Montreal, Quebec, H3A 2T7, enclosing curriculum vitae, copies of 2 or 3 papers and names and addresses of 3 referees.

MCMASTER UNIVERSITY. Sociology Department. Applications are invited for a two year contractually-limited appointment at the rank of Lecturer / Assistant Professor. Ph.D. necessary for Assistant Professorship status. Specializations open. Salary commensurate with qualifications and experience. Curriculum vitae and letters of reference should be sent to Dr. Peta Sheriff, Chairperson, Sociology Department, McMaster University, Hamilton, Ontario, Canada, L8S 4M4.

ST. FRANCIS XAVIER UNIVERSITY. Department of Sociology and Anthropology. One position. Assistant Professor. Ph.D. or equivalent. Areas of specialization preferred: Social Policy, Organizational Behavior, and Human Relations. Salary dependent on academic qualifications and experience. Duties: Teaching at Undergraduate level. Appointment will be made September, 1979 subject

to availability of funds. Send enquiries to: Dr. A. A. MacDonald, Chairman, Department of Sociology / Anthropology, St. Francis Xavier University, Antigonish, Nova Scotia, B2G 1C0. Phone: (902) 867-2129.

UNIVERSITY OF CALGARY. Department of Sociology. The Department of Sociology, The University of Calgary, hopes to fill up two possible vacancies commencing July 1, 1979, subject to budgetary allocations. Preference will be given to applicants with some combination of research and teaching experience in the areas of Family Sociology, Social Psychology, Deviance, Criminology, Population and Macro Sociology. Rank of appointment open. Applications with up-to-date curriculum vitae plus the names of three referees should be sent to Dr. R. A. Stebbins, Head, Department of Sociology, The University of Calgary, Calgary, Alberta, Canada, T2N 1N4.

UNIVERSITY OF ALBERTA. Department of Sociology. Expected vacancy at the Assistant Professor level. Ph.D. Specialization open. The University of Alberta is an equal opportunity employer. Send Curriculum Vitae and names of three referees to: Professor T.H. White, Chair, Department of Sociology, The University of Alberta, Edmonton, Alberta. T6G 2H4. July 1, 1979.

UNIVERSITY OF GUELPH. Department of Sociology and Anthropology. The Department of Sociology and Anthropology of the University of Guelph has been authorized to invite applications for the academic year 1979-1980 for a one-year contractually limited appointment to be made at the rank of Assistant Professor. A range of courses will be taught over the period of the appointment including Introductory Sociology, Classical Theory, Sociology of the Community and Social Change. Appropriate academic qualifications are required; among qualified applicants, the primary criterion for appointment will be teaching ability. Offer of appointment is subject to final budgetary approval. Applications should be sent to: Dr. Wayne E. Thompson, Professor and Chairman, Sociology and Anthropology, University of Guelph, Guelph, Ontario N1G 2W1.

SPANISH/PORTUGUESE

UNIVERSITY OF TORONTO. Department of Spanish and Portuguese. 1) Assistant Professor, Portuguese, for three year contract, possibly renewable to a total of five years. 2) Ph.D. or equivalent with thesis in Luso Brazilian Literature. Native or near-native fluency preferred. 3) Teaching and research in Luso Brazilian Literature. Experience in teaching of language courses essential. 4) Salary fully competitive. 5) Professor Kurt Levy, Chairman, Department of Spanish and Portuguese, University of Toronto, Toronto, Ontario, M5S 1A1. 6) July 1, 1979. 7) May 1, 1979.

UNIVERSITY OF TORONTO. Department of Spanish and Portuguese. 1) Assistant Professor of Spanish, 2 to 3 year contract, possibly renewable to a total of five years. 2) Ph.D. or equivalent with thesis in Modern Peninsular Literature. Native or near-native fluency preferred. 3) Teaching and research in Modern Peninsular Literature specifically Prose Fiction of the 19th and 20th Centuries. Experience in teaching of language courses essential. 4) Salary fully competitive. 5) Professor Kurt Levy, Chairman, Department of Spanish and Portuguese, University of Toronto, Toronto, Ontario, M5S 1A1. 6) July 1, 1979. 7) May 1, 1979.

SURVEY SCIENCE

UNIVERSITY OF TORONTO, ERINDALE COLLEGE. Department of Survey Science. Applications are invited for a one year (July 1, 1979 to June 30, 1980) contractually-limited position at the Associate Professor level. The candidate will be expected to give undergraduate lecture courses in geodesy and geodetic astronomy. A graduate degree as well as field and teaching experience are required. Applications, including curriculum vitae and names of three referees should be submitted to Professor G. Gracie, Survey

Science, Erindale College, Mississauga, Ontario, L5L 1C6 before April 30, 1979.

UNIVERSITY OF TORONTO, ERINDALE COLLEGE. Survey Science Programme. Applications are invited for appointment in the tenure stream, at the assistant or associate professor level, depending upon qualifications and subject to budgetary approval. Preference is for expertise in municipal engineering, land planning and development, as well as academic qualification and experience in surveying. This does not exclude applicants with special expertise in other fields of surveying. Further information may be obtained from the Chairman, Survey Science Search Committee, Erindale College, University of Toronto, Mississauga, Ontario, L5L 1C6, with whom applications should be lodged by April 30, 1979. Appointment would commence July 1, 1979, or as soon as possible thereafter.

VETERINARY MEDICINE

UNIVERSITY OF SASKATCHEWAN, WESTERN COLLEGE OF VETERINARY MEDICINE. Department of Veterinary Pathology. Instructor position available, July 1, 1979 to June 30, 1980 in Department of Veterinary Pathology, University of Saskatchewan. D.V.M. degree or equivalent plus eligibility for licensure in Saskatchewan required. Duties to include laboratory instruction in General and Systemic Pathology, and Diagnostic Necropsy Service, especially of all wildlife species, including avian, mammalian and piscine species. Knowledge and experience in this area is essential. Please submit a letter of application to Dr. J.H.L. Mills, Department of Veterinary Pathology, Western College of Veterinary Medicine, University of Saskatchewan, Saskatoon, Saskatchewan, Canada, S7N 0W0. Salary (1978-79) \$13,278 to \$16,078. The position to be filled when a suitable candidate is found. Applications accepted until the position is filled.

UNIVERSITY OF SASKATCHEWAN, WESTERN COLLEGE OF VETERINARY MEDICINE. Department of Veterinary Pathology. Instructor required, July 1, 1979 to June 30, 1980, to assist in laboratory instruction in Clinical Pathology for third and fourth years, as well as eligibility for licensure in Saskatchewan. Salary range (1978-79) is \$13,278 to \$16,078, the position to be filled when a suitable candidate is found. Reply: Send curriculum vitae plus names of three references to Dr. J.H.L. Mills, Department of Veterinary Pathology, Western College of Veterinary Medicine, University of Saskatchewan, Saskatoon, Saskatchewan, S7N 0W0.

UNIVERSITY OF SASKATCHEWAN, WESTERN COLLEGE OF VETERINARY MEDICINE. Department of Veterinary Pathology. Western College of Veterinary Medicine, Saskatoon, requires a faculty member in Veterinary Clinical Pathology, effective July 1, 1979. Responsibilities include teaching classes in the undergraduate and graduate curricula as well as sharing in the service load of the laboratory. Participation in research and continuing education is expected. This is a tenurable position. Applicants must have a D.V.M. degree or equivalent degree and be eligible for licensure in Saskatchewan. A graduate degree, board certification or board eligibility are desirable. Salary commensurate with training and experience. Reply: Send curriculum vitae plus names of three references to Dr. J.H.L. Mills, Department of Veterinary Pathology, Western College of Veterinary Medicine, University of Saskatchewan, Saskatoon, Saskatchewan, S7N 0W0.

UNIVERSITY OF GUELPH. Department of Veterinary Microbiology and Immunology. Vacancy: Veterinary Immunology, Faculty Position — Assistant Professor. Requirement: D.V.M. with M.Sc. or Ph.D. in immunology. Experience in clinical immunology preferable. Duties: Teaching of graduate and undergraduate students in clinical immunology. Establish and direct a clinical immunological laboratory at the Veterinary College, conduct research in applied immunology. Salary: Negotiable, position subject to final budgetary approval. Application: Send particulars in writing to: Dr. D.A. Barnum, Department of Veterinary Microbiology and Immunology, Ontario Veterinary College, University of Guelph, Guelph, On-

tario N1G 2W1. Effective Date of Employment: September 1, 1979.

UNIVERSITY OF SASKATCHEWAN. Department of Veterinary Clinical Studies, Western College of Veterinary Medicine. The Department of Veterinary Clinical Studies is inviting applications for two positions in Small Animal Internal Medicine. Applicants must possess a D.V.M. degree or its equivalent and be eligible to become licensed to practice in Saskatchewan. The positions are available July 1, 1979. Candidates with post-graduate qualifications and/or board certification will be given preference. Responsibilities will include undergraduate and graduate teaching internal medicine or one of the sub specialties, primarily in small animals, and participation in the clinical service programs of the Department. Clinical research will be encouraged and expected. Applications and curriculum vitae should be submitted to Dr. W.M. Adams, Head, Department of Veterinary Clinical Studies, University of Saskatchewan, Saskatoon, Saskatchewan, S7N 0W0, Canada.

UNIVERSITY OF GUELPH. Department of Clinical Studies, Ontario Veterinary College. The Department of Clinical Studies of the Ontario Veterinary College, University of Guelph, requires a faculty member in the area of Large Animal Medicine. Applicants should have previous teaching experience and an advanced degree, diploma or broad certification. Applicants must be licensed or be eligible for licensing to practise veterinary medicine in Ontario. Salary will be commensurate with training and experience. This position is subject to budgetary approval. Enquiries concerning this position should be made to: Chairman, Department of Clinical Studies, Ontario Veterinary College, University of Guelph, Guelph, Ontario, Canada, N1G 2W1. Selection of the successful candidate will be made on recommendation of a selection committee.

UNIVERSITY OF SASKATCHEWAN. Veterinary Infectious Disease Organization. Research Biochemist (PhD). Needed for the Veterinary Infectious Disease Organization (VIDO). The successful candidate will be expected to: Collaborate with other scientists, and have biochemical input into all VIDO research programs pertaining to such research activities on infectious diseases; Write grant applications for funds; Participate in the development of VIDO objectives; Participate in fund-raising and public relations programs; Write or assist in writing fact sheets on animal diseases for public information; Have detailed knowledge of the purchase and operation of biochemical and laboratory equipment and techniques; Other duties assigned by the Director. The individual should have a PhD degree in biochemistry and several years experience in a medical, veterinary, or agricultural area. Desirable to have previous experience in neonatal diarrhea. Working conditions — excellent. Salary will be commensurate with training and experience. Apply by letter including education, work experience, bio data, and the names of 3 references to: Dr. C.H. Bigland, Director, The Veterinary Infectious Disease Organization, 124 Veterinary Road, Saskatoon, Saskatchewan, Canada S7N 0W0. VIDO is a newly established research center, dedicated to serving the livestock industry through research on the control of common infectious diseases of food-producing animals. The unique \$4.3 million VIDO Laboratory was officially opened October 2, 1978. Office functions have been in operation for 3 years. Research on neonatal diarrhea, enteric and respiratory disease of food-producing animals has been active for 2 years and will be expanding.

ZOOTECNIE

UNIVERSITÉ LAVAL. Département de Zootechnie. L'Université Laval recherche des candidats pour un poste de professeur en Zootechnie. Les candidats doivent avoir un doctorat (Ph.D.) soit en Zootechnie, soit en médecine vétérinaire, avec expérience pertinente de l'enseignement et de la recherche, surtout dans le domaine de la production de viande (Meat Production). Le salaire et le rang universitaire seront à déterminer selon les qualifications et l'expérience du candidat, compte tenu de la convention collective. Les intéressés sont priés de faire parvenir leur curriculum vitae, le nom et l'adresse de trois répondants, avant

le 30 avril 1979, à l'adresse suivante: Gaston St-Laurent, directeur, Département de Zootechnie, Faculté des Sciences de l'Agriculture et de l'Alimentation, Université Laval, Québec, P.Q., G1K 7P4. Tél.: (418) 656-7717.

UNIVERSITÉ LAVAL. Département de Zootechnie. L'Université Laval recherche des candidats pour un poste de professeur dans le domaine de l'amélioration et de la génétique appliquée aux animaux de la ferme (Animal Breeding). Les candidats doivent avoir un doctorat ou l'équivalent et une expérience pertinente de l'enseignement et de la recherche dans le domaine. Le salaire et le rang académique seront à déterminer selon les qualifications et l'expérience du candidat, compte tenu de la convention collective. Les intéressés sont priés de faire parvenir leur curriculum vitae, le nom et l'adresse de trois répondants, à l'adresse suivante avant le 30 avril 1979: Gaston St-Laurent, directeur, Département de Zootechnie, Faculté des Sciences de l'Agriculture et de l'Alimentation, Université de Laval, Québec, P.Q., G1K 7P4. Tél.: (418) 656-7717.

MISCELLANEOUS

JOURNAL OF POPULAR CULTURE. Call for Papers. The Journal of Popular Culture will publish an issue with an "In-Depth" section on "Latin American Popular Culture". We are especially looking for substantive papers of not more than 20 pages on any of the following topics: comics, pulps, radio, television, tabloid press, carnivals, sports, popular music, cinema, foto-novelas, cartoons, and popular poster or wall art. Other popular culture subjects will be seriously considered. Papers must be completed by January 1, 1980, but one or two page proposals should be submitted as soon as possible to the guest editors: Harold Hinds, Jr., Division of Social Sciences, University of Minnesota, Morris, Minnesota 56267 and Charles Tatum, Department of Foreign Languages, New Mexico State University, Las Cruces, New Mexico 88003.

LATE ADS

L'INSTITUT D'ÉTUDES PÉDAGOGIQUES DE L'ONTARIO. Centre d'études sur l'éducation franco-ontarienne. L'Institut d'études pédagogiques de l'Ontario recherche un chef pour le Centre d'études sur l'éducation franco-ontarienne. La fonction: Le chef du centre est responsable de l'administration d'une unité de recherche et de développement desservant les écoles d'expression française en Ontario. Le centre dirige administrativement du bureau du Coordonnateur du Développement Régional et comprend un personnel francophone diversifié, dont deux professeurs à plein temps. Il / elle participera à la réalisation des projets existants et à l'élaboration de nouveaux projets, définis dans le cadre de priorités établies par un comité consultatif composé d'éducateur franco-ontariens. Il / elle pourra offrir des cours menant à la maîtrise et au doctorat. Le / la candidat(e) doit posséder une formation appropriée au poste (doctorat ou autre titre supérieur) ainsi que des qualités d'initiative et de dynamisme. La préférence sera accordée aux candidats possédant une expérience dans l'enseignement et une connaissance des problèmes des écoles franco-ontariennes. Traitement: selon les qualifications et l'expérience. Date d'entrée en fonction: à négocier avant le 1er juillet 1979. Faire parvenir avant le 30 avril 1979 votre acte de candidature et votre curriculum vitae à: Dr. M. Holmes, Coordonnateur de Développement Régional, L'Institut d'études pédagogiques de l'Ontario, 252 Bloor West, Toronto, Ontario, M5S 1V6.

INSTITUT CANADIEN DE RECHERCHES POUR L'AVANCEMENT DE LA FEMME. La troisième conférence annuelle de l'Institut canadien de recherches pour l'avancement de la femme se tiendra du 9 au 11 novembre, à Edmonton. Afin de commémorer le cinquantième anniversaire de la "Cause des cinq personnes" au moment où les Canadiennes étaient reconnues en tant que "citoyennes à part entière" devant la loi, le thème de la conférence sera "La femme en tant que personne". Nous

invitons les personnes intéressées à présenter des travaux, en langue anglaise ou en français, sur les relations entre les différentes institutions divers champs d'action ou disciplines et les capacités des femmes à se réaliser en tant que personnes dans les domaines suivants: la politique, l'économie, la loi, l'histoire, la psychologie, la théologie, la science et la société. Les résumés devront être reçus avant le 31 mai. L'échéance pour les travaux complétés sera le 1er août. Veuillez envoyer votre résumé au Dr. M. Ann Hall, Coordonnatrice de la réunion ICRAF 1979, Département de Physical Education, University of Alberta, Edmonton, Alberta, T6G 2H9.

CANADIAN RESEARCH INSTITUTE FOR THE ADVANCEMENT OF WOMEN. The Canadian Research Institute for the Advancement of Women will hold its third annual conference at Edmonton, November 9-11, 1979. In commemoration of the fiftieth anniversary of the Persons Case when women were finally declared "persons" in the eyes of the law, the theme of the conference is *Women as Persons*. Papers or presentations in either English or French, are invited on the relationship between various institutions, fields or disciplines and women's ability to achieve personhood, specifically in the areas: politics, economics, the law, history, psychology, theology, science and society. Abstracts must be received by May 1st. Completed papers will be due by August 1st. Send abstract to Dr. M. Ann Hall, 1979 CRIAW Conference Coordinator, Department of Physical Education, University of Alberta, Edmonton, Alberta, T6G 2H9.

CANADIAN RESEARCH INSTITUTE FOR THE ADVANCEMENT OF WOMEN. Research Grants-in-Aid. In commemoration of the fiftieth anniversary of the Persons Case, when Canadian women were finally declared "persons" in the eyes of the law, the Canadian Research Institute for the Advancement of Women announces four grants-in-aid, to the value of \$2,000 each, to support the initiation of research related to the general topic of *Women as Persons*. The grants will be presented at the Third Annual Meeting and Conference in Edmonton, Alberta, November 9-11, 1979. University affiliation is not a necessary requirement. Those interested in applying should request an application form from Marion Porter, Canadian Research Institute for the Advancement of Women, Suite 415, 151 Slater Street, Ottawa, Ontario, K1P 5H3. Deadline for completed applications is July 6 1979.

INSTITUT CANADIEN DE RECHERCHE POUR L'AVANCEMENT DE LA FEMME. Subventions pour recherches. Afin de commémorer le cinquantième anniversaire de la cause des Cinq Personnes, au moment où les Canadiennes étaient reconnues comme des "citoyennes à part entière" devant la loi, l'Institut canadien de recherches pour l'avancement de la femme désire annoncer qu'il accordera quatre subventions d'une valeur de \$2,000 chacune, pour aider à la mise en train de travaux de recherche ayant pour thème général "La femme en tant que Personne". Les subventions seront présentées lors de la troisième réunion et conférence de l'ICRAF à Edmonton, Alberta, du 9 au 11 novembre 1979. L'affiliation à une université n'est pas nécessairement requise. Les personnes intéressées à recevoir le formulaire de demande de subvention devront communiquer avec Marion Porter, à l'Institut canadien de recherches pour l'avancement de la femme, au 151, rue Slater, pièce 415, Ottawa, Ontario, K1P 5H3. L'échéance pour les demandes dûment complétées et retournées sera le 6 juillet 1979.

UNIVERSITY OF ALBERTA. Department of Anatomy. Applications are invited for a position of Assistant Professor of Anatomy, commencing July 1, 1979. The primary teaching responsibility of the position is in Neuroanatomy / histology. The applicant is expected to have a commitment to research and previous teaching experience is desired. Applications should include a covering letter, curriculum vitae, list of publications and the names of three referees. Applications should be directed before April 30 to: Dr. T. S. Leeson, Professor and Head, Department of Anatomy, University of Alberta, 5-09 Medical Sciences Building, Edmonton, Alberta, Canada, T6G 2H7. The University of Alberta is an equal opportunity employer.

ECONOMIC BENEFITS. BENEFICES ECONOMIQUES

The Pension Fund Debate by R.M. MacIntosh and J.F. Chalcraft. Discussion Paper Series. Ontario Economic Council 1978. 21 pages. \$1.00.

Private Pensions in an Inflationary Climate: Limitations and Policy Alternatives by James E. Pesando. Discussion Paper No. 114, Economic Council of Canada, April 1978. 85 pages, free.

Better Pensions Fully Protected Against Inflation. Proposals for a New Pensions Scheme. Cmnd. 5713. September 1974, 26 pages.

Explanatory Memorandum on the Social Security Pensions Bill 1975. Cmnd. 5929. February 1975. 15 pages. 20 p.

Social Security Pensions Bill 1975. Report by the Government Actuary on the Financial Provisions of the Bill. February 1975. Cmnd. 5928. 19 pages. 20 p.

Last three available from Her Majesty's Stationary Office, London.

The MacIntosh and Chalcraft papers are comments on "Public and Private Pensions in Canada; an Economic Analysis" by Pesando and Rea (1977, Ontario Economic Council Research Study. Reviewed in the April 1978 Bulletin). The Pesando paper is an extension of the Pesando and Rea study and makes reference to the United Kingdom Social Security Pensions Act of 1975.

The MacIntosh and Chalcraft articles, prepared for an Outlook and Issues Seminar of the Ontario Economic Council in November 1977, are rather sketchy. MacIntosh devotes most of his attention to the issue of indexed pensions. He takes the position that they are not possible in the private sector and it is thus unfair for public servants to have them. Rea and Pesando had suggested that they would be quite possible in the private sector if the government or private firms were to issue indexed bonds which could be bought by pension funds. MacIntosh argues that indexed bonds are not likely to be issued by private firms although his arguments are rather peculiar. He suggests that the Ontario Securities Commission would not approve them (although he provides no explanation of why this should be expected) and then goes on to present an even stranger argument. He says:

To put the matter in more obvious terms, consider whether or not you would like to assume an indexed mortgage when you buy your house. Your future mortgage payments would not be fixed, but would escalate with the cost of living. It seems unlikely that this would be an acceptable instrument of indebtedness to the general public.

This coming from a banker (and an economist at that) is most strange. All the financial institutions (including banks) providing mortgages dropped the fixed interest provisions several years ago! Interest rates now are fixed for only 5 years at a time (something which MacIntosh actually mentions two pages earlier!) and more recently three year terms have become frequent. So mortgage interest rates are more or less indexed and the public does take the risk. The Banks have also "indexed" the interest charges on their intermediate term loans in recent years where the rate varies directly with the prime rate — the so-called "floating rate" loans. It is interesting that much

Pensions in an inflationary climate

by E.D. Maher

Dept. of Administration, U.N.B.

of the opposition to indexed pensions comes from the financial community which has been quick to "index" all of its own income payments to provide protection against potential losses due to inflation!

Dr. Pesando also concerns himself with matters of equity (as did the Pesando and Rea study) but from the point of view of trying to find means of ensuring equity and providing protection to all pensioners against the consequences of inflation whether in the public or private sector. As he points out if pensions are effectively indexed for inflation the pensioners will not be getting something extra but only the pension, in real terms, that they were originally promised and which they would have received if there had been no inflation. After all real per capita incomes continue to rise (even if less rapidly and smoothly than in the past) so it can not be argued that the economy can not afford to maintain promised pensions in real terms.

In examining the equity issue Dr. Pesando points out that if real returns on pension fund assets were maintained during inflation then there would be no diversion of resources from the fund to other groups in the community although there could be transfers either way between employer and employee. However since real returns appear to decline during periods of rising inflation there is generally some diversion of resources from investors in bonds and stock to borrowers and to the government in taxes. Dr. Pesando seeks means by which diversions of resources from employee to employer and from employer/employee to other groups in the community can be prevented.

Problems of equity can arise at two points — during the accrual of the pension benefits and during their payment. Pesando points out that the first part of the problems is largely being dealt with by the steady shift to pensions based on some version of "highest average earnings" (55% of plan members in Canada are now covered by such plans). Here the inflation typically brings about comparable increases in wages and salaries and thus in the amount of pension benefits. However if, as is typical, the pension is fixed in dollars at the time of retirement then the benefit is eroded in real terms from then on to the extent of any inflation.

Indexed pension plans already exist in Canada, government plans for citizens and plans for public servants. The OAS is indexed although there is no automatic provision for increasing the real amount of the pension as real incomes rise in the community. The CPP/QPP is also fully indexed after retirement but unlike the OAS is also

effectively indexed to real income levels prior to retirement since it is comparable to a "final average earnings plan". Most public service pensions in Canada are "highest average earnings" plans indexed fully (or partially with relatively high maximum limits) after retirement.

Dr. Pesando makes clear that so far only governments have been willing to undertake substantial automatic indexing in their pension plans (many private plans have been providing ad hoc adjustments to pensions being paid in recent years although the adjustments generally have not exceeded about 50% of the increase in the CPI). Governments can undertake such obligations because they have the taxing power and they can also assume perpetual existence which enables them to take a very long run point of view (i.e. they can expect that stability or deflation will at some time follow inflation). He concludes that private employers, not enjoying either of these advantages, will not provide automatic indexing so long as they have to bear all the risks.

Pesando and Rea, as already indicated, suggested the issuance of indexed bonds (for pension fund investment) by the government if private firms did not do so. However Pesando's further study leads him to conclude that indexed bonds probably present too many problems with respect to their impact on security markets if issued in adequate quantities quickly and they are unlikely to be available. In this respect Pesando — like MacIntosh — seems to have been caught up in semantics. We already have "variable rate" mortgages and "extendable / retractable" bonds available to private investors. Neither yet provides the equivalent of annual indexing and neither protects against the failure of nominal yields to adjust fully to maintain real yields but it is clearly a move in the right direction. Also not enough attention is being paid to the fact that most existing pension funds are caught with much of their money locked into very long term fixed interest obligations at relatively low rates. If the move to issuing debt with provisions for periodic adjustments in the interest rates continues this problem will gradually be reduced in importance.

Dr. Pesando raises the question of why private firms are unwilling to undertake contractual indexing of pension benefits when they have been rapidly shifting to "highest average earnings" plans which effectively index pension accruals to inflation, an arrangement that has in recent years been leading to the creation of very large experience deficiencies in their funds which must be financed. He concludes, quite reasonably I believe, that

so long as it is a matter of accruing pension benefits for existing employees they can be induced to contribute towards any increased costs through additional contributions or, more likely, through lower wage increases which provide the employer with additional funds to cover the deficits. However they apparently believe, again probably quite reasonably, that employees will be much less willing to agree to greater contributions or lower wage increases for the benefit of employees already retired. Thus special arrangements would seem to be necessary to provide for the indexing after retirement in the case of private pension plans.

Having rejected indexed bonds as a practical solution (at least for the immediate future) Dr. Pesando comes up with another solution which really has two parts. First he would require that insurance companies only be permitted to issue annuities on the basis of a specified real rate of return on investments (this is generally assumed to be in the 2% to 3% range for riskless securities). This is important to prevent the transfer of resources from employees to the employer. The issue is this. Assume that in a non-inflationary situation an employer promised a fixed dollar pension and then calculated the contributions necessary to provide the necessary lump sum at retirement assuming, say, a 3% real return on pension fund investments. Now if there is inflation and nominal returns on investments rise to 10% (i.e. maintaining the 3% real return) then the employer could buy the same fixed dollar pension for considerably less money and use the "saving" to reduce his future contributions to the fund. Dr. Pesando would prevent this shift by his proposed limitation with the result that the extra funds would be available only to index the pension payments which they would do fully if real returns remained at 3%.

However, as already indicated, real returns — at least during the period of rising inflation — usually fall so the pension fund needs protection against this. Dr. Pesando proposes a government insurance scheme under which the pension fund would be compensated by the insurer for any indexing payment necessary in excess of what could be provided by the high nominal rates of interest on investments. Since the funds would be required, in turn, to pay over to the insurer any gains they make — from holding high interest obligations after inflation declines — he would not expect that there would be any long-run cost to the insurer provided the correct real rate of interest is chosen in establishing the rules for the insurance.

In 1975 the United Kingdom provided for fully indexed pensions for both the public and private sectors. As the UK government said in 1974 (Cmnd 5713, par. 2)

If people are to face retirement without continual anxiety about money, they must have a guarantee that the value of their pensions rights will be maintained both while they are being built up during working life and after the pension has been put into payment. Indeed... no proposals coming forward today could be regarded as realistic without such a guarantee.